

AD-A072 137

NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERVATION ALBANY F/G 13/2
NATIONAL DAM SAFETY PROGRAM. SKANEATELES LAKE DAM (NY414), OSWE--ETC(U)
SEP 78 J B STETSON

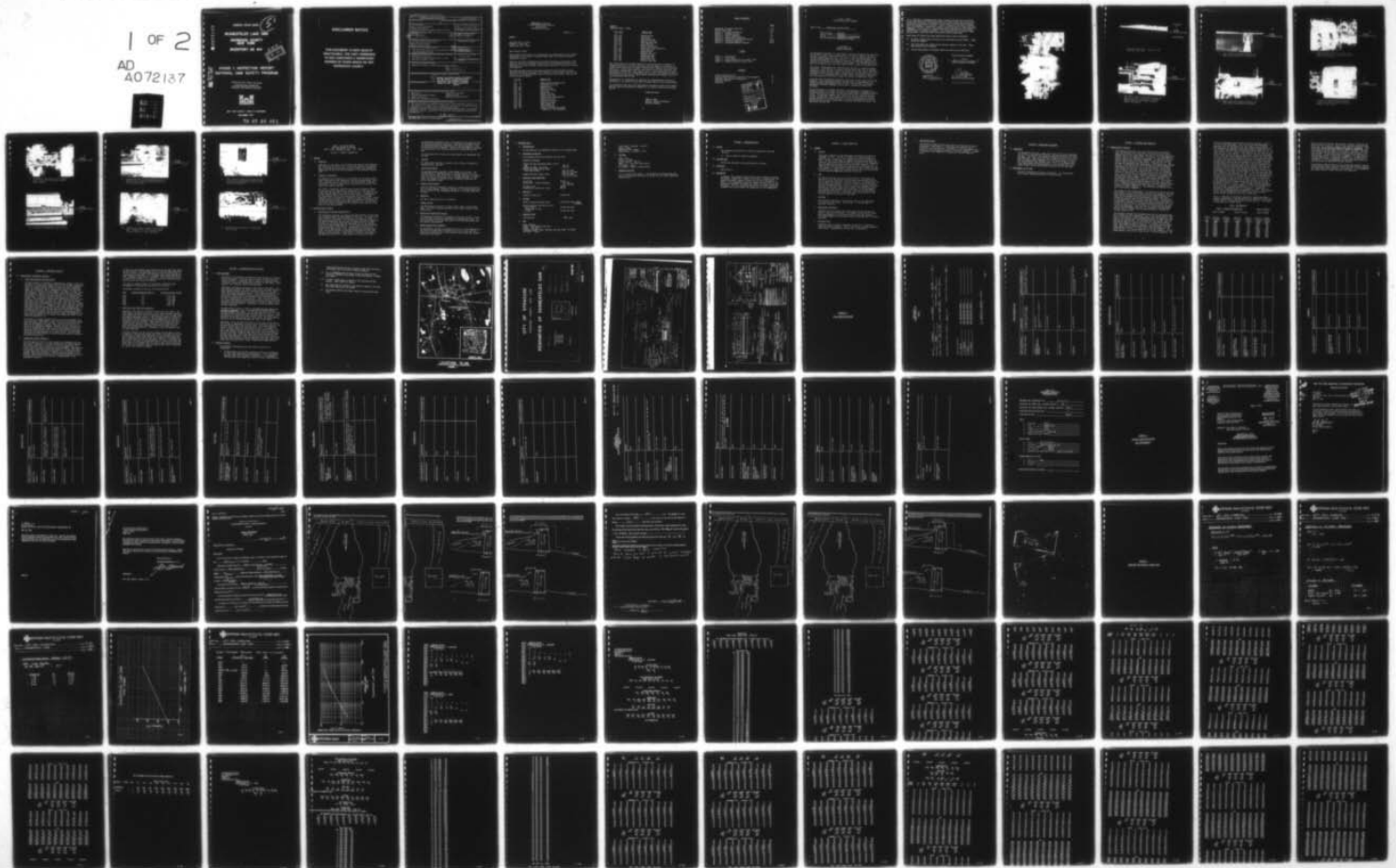
DACW51-78-C-0035

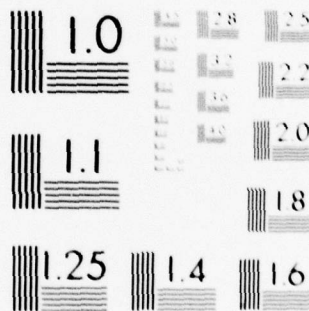
NL

UNCLASSIFIED

1 OF 2

AD
A072137





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

DA072137

OSWEGO RIVER BASIN

5
B.S.

SKANEATELES LAKE DAM

ONONDAGA COUNTY
NEW YORK

INVENTORY NO 414

DDC
AUG 1 1979
C

DDC FILE COPY

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

APPROVED FOR PUBLIC RELEASE;
DISTRIBUTION UNLIMITED
CONTRACT NO. DACW 51-78-C-0035



NEW YORK DISTRICT CORPS OF ENGINEERS

SEPTEMBER 1978

79 07 30 031

DISCLAIMER NOTICE

**THIS DOCUMENT IS BEST QUALITY
PRACTICABLE. THE COPY FURNISHED
TO DDC CONTAINED A SIGNIFICANT
NUMBER OF PAGES WHICH DO NOT
REPRODUCE LEGIBLY.**

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|-----------------------|--|
| 1. REPORT NUMBER | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle) Phase I Inspection Report Skaneateles Lake Dam Oswego River Basin, Onondaga County, New York Inventory No. N.Y. 414 | | 5. TYPE OF REPORT & PERIOD COVERED Phase I Inspection Report National Dam Safety Program |
| 7. AUTHOR(s) (10) John B. Stetson | | 6. PERFORMING ORG. REPORT NUMBER |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS Dale Engineering Company, Inc. Bankers Trust Building Utica, New York 13501 | | 8. CONTRACT OR GRANT NUMBER(s) (15) DACW-51-78-C-0035 |
| 11. CONTROLLING OFFICE NAME AND ADDRESS New York State Department of Environmental Conservation/ 50 Wolf Road Albany, New York 12233 | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Department of the Army 26 Federal Plaza/ New York District, CofE New York, New York 10007 | | 12. REPORT DATE (11) 24 September 1978 |
| | | 13. NUMBER OF PAGES |
| | | 15. SECURITY CLASS. (of this report) UNCLASSIFIED |
| 16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; Distribution unlimited. (12) 115 p. | | 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) | | |
| 18. SUPPLEMENTARY NOTES (6) National Dam Safety Program, Skaneateles Lake Dam (NY414), Oswego River Basin, Skaneateles Lake Watershed, Onondaga County, New York, Phase I Inspection Report. | | |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) | | |
| Dam Safety National Dam Safety Program Visual Inspection Hydrology, Structural Stability Skaneateles Lake Dam Onondaga County Skaneateles Lake Watershed | | |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) | | |
| This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization. Skaneateles Lake Dam was judged to be unsafe-Non Emergency due to a seriously inadequate spillway. Additional investigations and maintenance actions were recommended. | | |

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, NEW YORK
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10007

2 OCT 1953

NANEN-F

Honorable Hugh L. Carey
Governor of New York
Albany, New York 12224

Dear Governor Carey:

The purpose of this letter is to inform you of a clarification of the guidelines used by this office in assessing dams under the National Program of Inspection of Dams.

Office of the Chief of Engineers has recently provided a clarification that dams with seriously inadequate spillways are to be assessed as unsafe, non-emergency, until more detailed studies prove otherwise or corrective measures are completed.

The following dams in your state have previously been assessed as having seriously inadequate spillways, with capability to pass safely only the percentage of the probable maximum flood as noted in each report. They are now to be assessed as unsafe:

| <u>I.D. NO.</u> | <u>NAME OF DAM</u> |
|-----------------|---|
| N.Y. 59 | Lower Warwick Reservoir Dam |
| N.Y. 4 | Salisbury Mills Dam |
| N.Y. 45 | Amawalk Dam |
| N.Y. 418 | Jamesville Dam |
| N.Y. 685 | Colliersville Dam |
| N.Y. 6 | Delta Dam |
| N.Y. 421 | Oneida City Dam |
| N.Y. 39 | Croton Falls Dam |
| N.Y. 509 | Chadwick Dam (Plattenkill) |
| N.Y. 66 | Boyd's Corner Dam |
| N.Y. 397 | Cranberry Lake Dam |
| N.Y. 708 | Seneca Falls Dam |
| N.Y. 332 | Lake Sebago Dam |
| N.Y. 338 | Indian Brook Dam |
| N.Y. 33 | Lower(S) Wiccopee Dam (Lower Hudson W.S. for Peekskill) |

NANEN-F

Honorable Hugh L. Carey

| <u>I.D. NO.</u> | <u>NAME OF DAM</u> |
|-----------------|-----------------------------|
| N.Y. 49 | Pocantico Dam |
| N.Y. 445 | Attica Dam |
| N.Y. 658 | Cork Center Dam |
| N.Y. 153 | Jackson Creek Dam |
| N.Y. 172 | Lake Algonquin Dam |
| N.Y. 318 | Sixth Lake Dam |
| N.Y. 13 | Butlet Storage Dam |
| N.Y. 90 | Putnam Lake (Bog Brook Dam) |
| N.Y. 166 | Pecks Lake Dam |
| N.Y. 674 | Bradford Dam |
| N.Y. 75 | Sturgeon Pool Dam |
| N.Y. 414 | Skaneateles Dam |
| N.Y. 155 | Indian Lake Dam |
| N.Y. 472 | Newton Falls Dam |
| N.Y. 362 | Buckhorn Lake Dam |

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

Consequently, it is advisable to implement the recommendations previously furnished in the reports for the above-mentioned dams as soon as practicable.

It is requested that owners of these dams be furnished a copy of this letter and that copies be permanently appended to all reports previously furnished to you.

Sincerely yours,

CLARK H. BENN
Colonel, Corps of Engineers
District Engineer

TABLE OF CONTENTS

| | <u>Page</u> |
|--|-------------|
| Assessment of General Conditions | i-ii |
| Overall View of Dam | iii-ix |
| Section 1 - Project Information | 1-4 |
| Section 2 - Engineering Data | 5 |
| Section 3 - Visual Inspection | 6-7 |
| Section 4 - Operational Procedures | 8 |
| Section 5 - Hydraulic/Hydrology Computations | 9-11 |
| Section 6 - Structural Stability | 12-13 |
| Section 7 - Assessment/Remedial Measures | 14-15 |

FIGURES

- Figure 1 - Location Map
Figure 2 - Title Sheet
Figure 3 - General Renovation Plan (April 1975)
Figure 4 - Renovation Details (April 1975)

APPENDIX

Field Inspection Report
Previous Inspection Reports/Relevant Correspondence
Hydrologic and Hydraulic Computations
Stability Analysis
References

A
B
C
D
E

| | |
|--------------------|--|
| Accession For | |
| NTIS GRA&I | <input checked="checked" type="checkbox"/> |
| DOC TAB | <input type="checkbox"/> |
| Unannounced | |
| Justification | |
| By _____ | |
| Distribution/ | |
| Availability Codes | |
| Dist | Avail and/or special |
| A | 823 |

PHASE I REPORT
NATIONAL DAM SAFETY PROGRAM

Name of Dam Skaneateles Lake Dam NY414

State Located New York
County Located Onondaga
Stream Skaneateles Lake Watershed
Date of Inspection September 14, 1978

ASSESSMENT OF
GENERAL CONDITIONS

The Skaneateles Lake Dam is a small masonry structure located on the north end of the lake in the Village of Skaneateles. The overall length of the dam is 150 feet, the height of the dam is 19.5 feet. Since the storage capacity of the dam exceeds 50,000 acre feet, the dam is in the Large Dam Category. The location of residential and commercial properties, immediately downstream of the dam, places the dam in the High Hazard Category. The drainage area of the dam is 72.3 square miles, the lake's surface area is about 13.5 square miles.

This Phase I investigation has determined that the dam is in need of further evaluation. Since the dam is a gravity dam structure, the Corps of Engineer's screening criteria requires a stability analysis of the dam. Due to the limited data available for this Phase I investigation, this analysis could not be performed. It is recommended that the owner locate information of the structure and foundation and provide a stability analysis to amend this report.

Using the Corps of Engineers screening criteria for initial review of spillway adequacy, it has been determined that the dam would be overtopped for all storms exceeding approximately 45% of the PMF. The spillway is, therefore, adjudged as seriously inadequate and the dam is assessed as unsafe, non-emergency.

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

It is, therefore, recommended that within 2 months from the date of notification to the governor of the State of New York, owners engage the services of a professional consultant to determine by more sophisticated methods and procedures the adequacy of the spillway. Within 12 months of the date of notification to the governor, appropriate remedial mitigating measures should have been completed. In the interim, a detailed emergency operation plan and warning system should be promptly developed. Also, during periods of unusually heavy precipitation, around-the-clock surveillance should be provided.

Other areas of concern have been noted which should receive attention:

- 1) At least a dozen boats are moored in the upstream spillway channel. These should be removed.
- 2) Two large boats are located in the entrance channel on the lake. These boats should also be removed.
- 3) The upstream channel walls/banks should be repaired and stabilized.

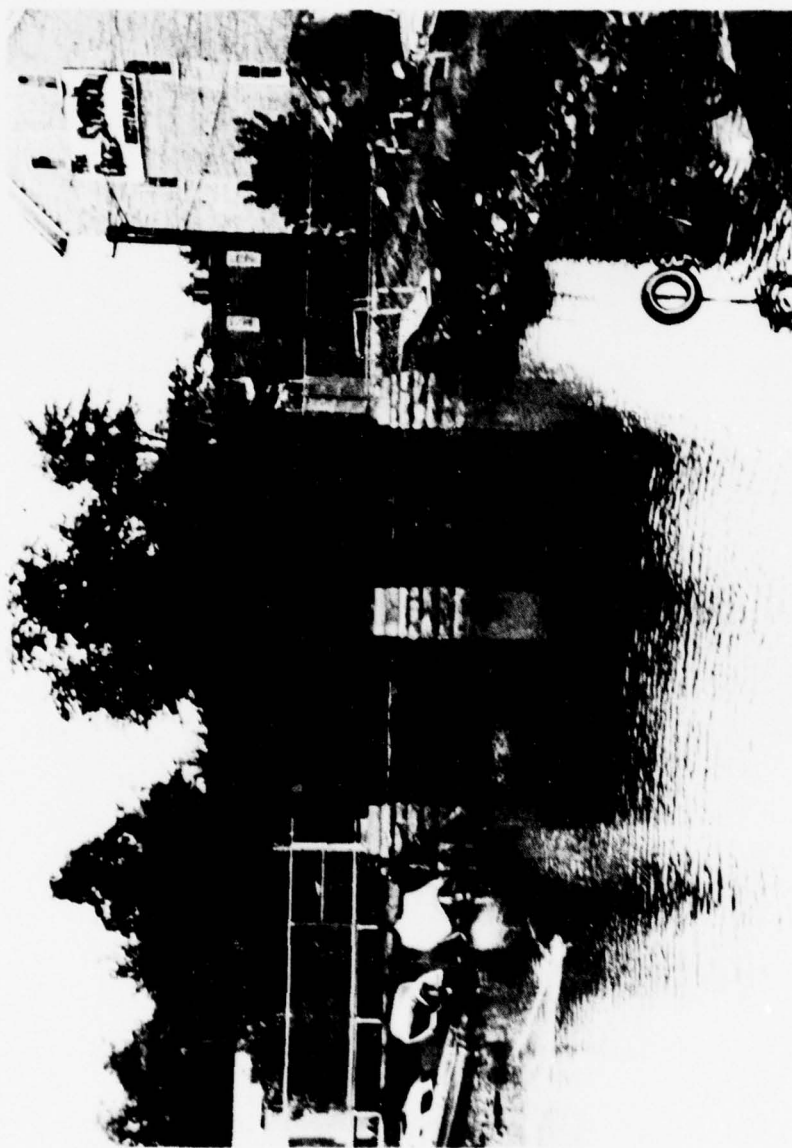


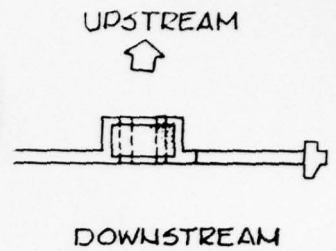
Approved By:
Date: *29 September 78*

Dale Engineering Company

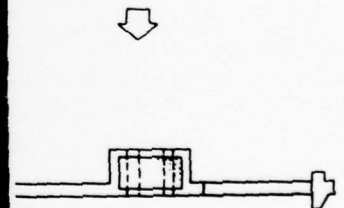
John B. Stetson
John B. Stetson, President

Clark H. Benn
Col. Clark H. Benn
New York District Engineer

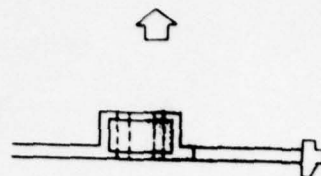




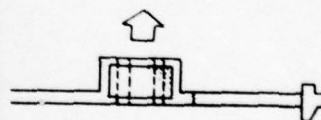
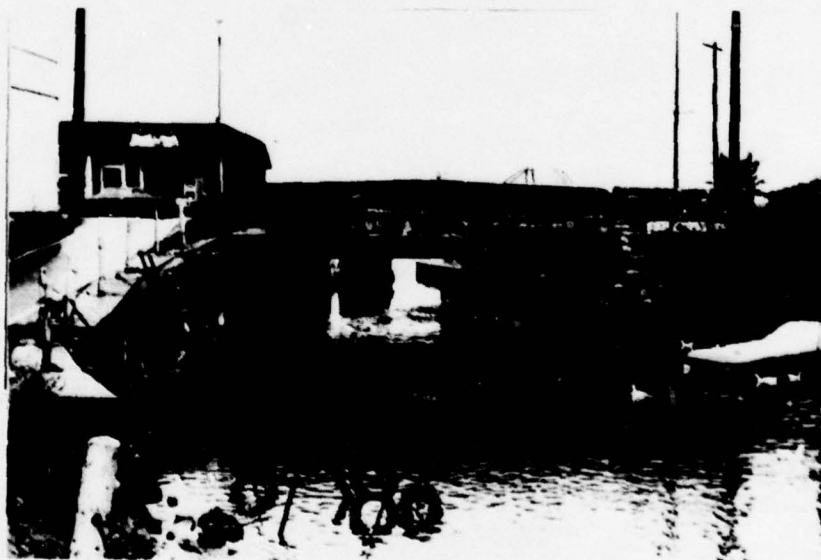
1. View of lake from a location just upstream from dam.



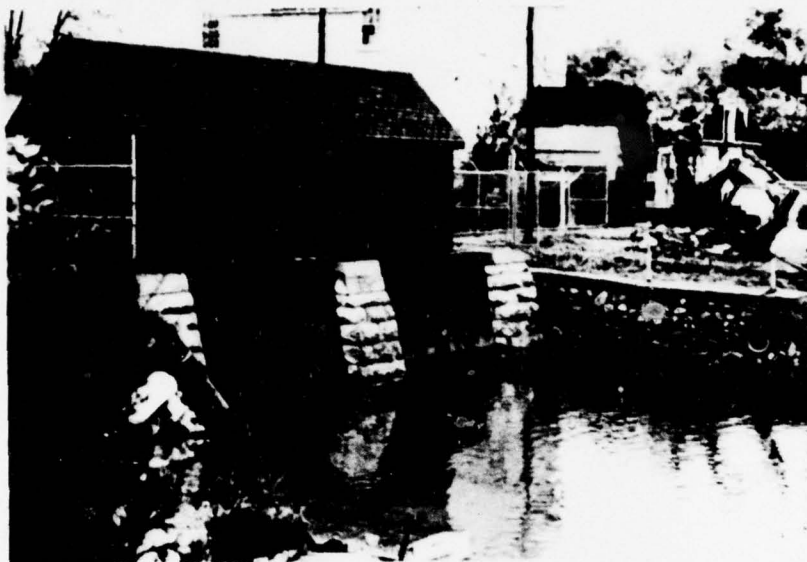
2. The lake flows to the dam through an opening at the location of the two boats through the bridge located behind the boats.



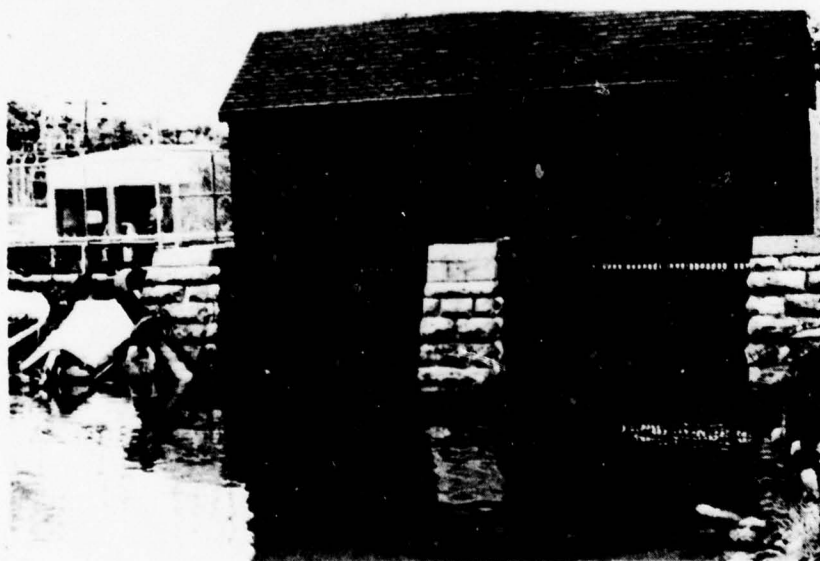
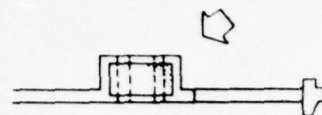
3. View looking outwards towards the lake from location of Picture #2.



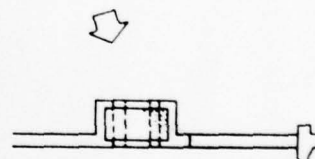
4. View from dam looking towards the lake which is beyond the bridge.



5. View of upstream face of dam. House contains six sluice gates which are each 3 feet square.

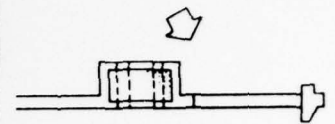


6. Closeup of upstream face showing trash racks and overflow section behind trash racks.

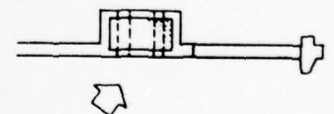


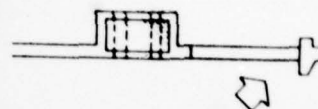
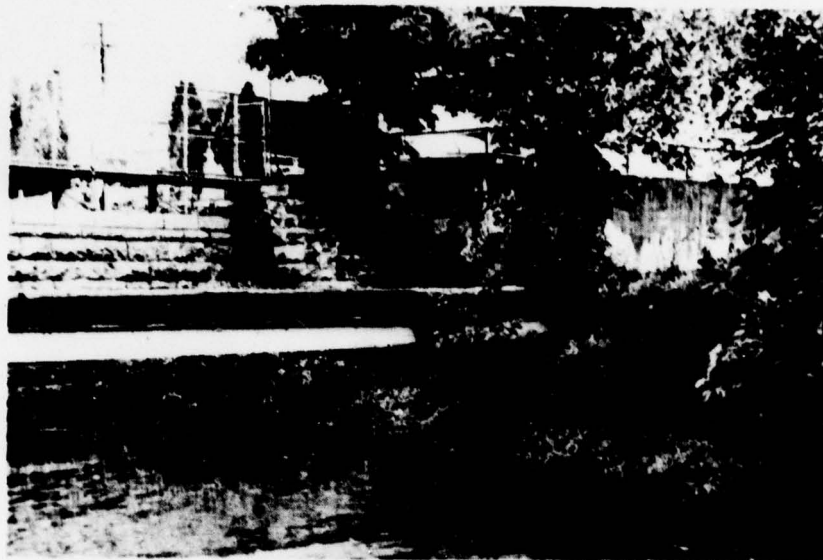


7. Closeup of upstream face of spillway. Boats are illegally moored next to dam.

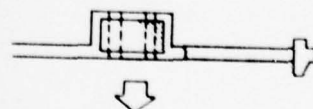


8. Closeup of downstream face of dam.

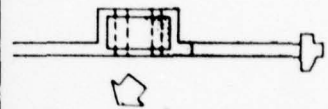
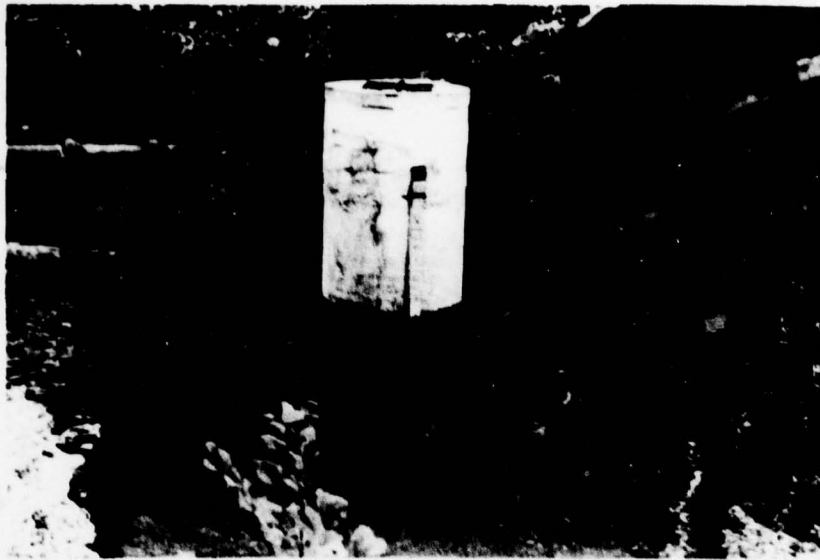




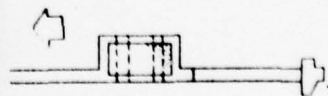
9. Downstream face of spillway which discharges into a small stilling basin in the stream channel.



10. Downstream channel immediately below dam. Channel is flat for more than 1/4 mile where it then steepens.



11. Silo located immediately behind dam contains the discharge (sluice gate) metering equipment.



12. Overbank area adjacent to upstream face of dam.

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
NAME OF DAM - SKANEATELES LAKE ID# - NY414

SECTION 1 - PROJECT INFORMATION

1.1 GENERAL

a. Authority

Authority for this report is provided by the National Dam Inspection Act, Public Law 92-367 of 1972. It has been prepared in accordance with a contract for professional services between Dale Engineering Company and The New York State Department of Environmental Conservation.

b. Purpose of Inspection

The purpose of this inspection is to evaluate the structural and hydraulic condition of the Skaneateles Lake Dam and appurtenant structures, owned by the City of Syracuse, and to determine if the dam constitutes a hazard to human life or property and to transmit findings to the State of New York.

This Phase I inspection report does not relieve an Owner or Operator of a dam of the legal duties, obligations or liabilities associated with the ownership or operation of the dam. In addition, due to the limited scope of services for these Phase I investigations, the investigators had to rely upon the data furnished to them. Therefore, this investigation is limited to visual inspection, review of data prepared by others, and simplified hydrologic, hydraulic and structural stability evaluations where appropriate. The investigators do not assume responsibility for defects or deficiencies in the dam or in the data provided.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam and Appurtenances

The Skaneateles Lake Dam is a masonry dam approximately 115 feet long with a maximum height of approximately 19-1/2 feet. Top width of the dam is 4 feet. The width of the masonry at the base is 6 feet. A dam report conducted by the State of New York Conservation Commission in June 1918 indicates that the dam is founded entirely on gravel. Portions of both the upstream and downstream side of the dam have been filled with earthen material. In the center portion of the dam at the waste gates is not filled. Approximately 80 feet of the length of the dam operates as an overflow weir during extreme high water. The westerly portion of the dam approximately 65 feet long operates as the spillway. A gate house is located in the center of the dam which controls six 3 foot square sluice gates and three

discharge pipes through the dam. The discharge pipes consist of two 24 inch pipes and one 48 inch pipe. These pipes discharge directly the receiving stream just downstream from the dam structure. Flow through these pipes is metered. Access to the flow meter is provided by a stand pipe in the receiving stream just downstream from the dam.

A village water main crosses the stream channel just downstream from the dam.

b. Location

The Skaneateles Lake Dam is located in the Village of Skaneateles, Onondaga County, New York.

c. Size Classification

The maximum height of the dam is approximately 19-1/2 feet. The storage volume of Skaneateles Lake is roughly estimated to be at least 84,500 acre feet, therefore, the storage capacity is estimated to be in excess of 50,000 acre feet. Therefore the dam is in the Large Size Category as defined by the recommended guidelines for Safety Inspection of Dams.

d. Hazard Classification

There are numerous residential properties situated along the banks of the receiving stream. Therefore, the dam is in the High Hazard Category as defined by the recommended guidelines for Safety Inspection of Dams.

e. Ownership

The dam is owned by the City of Syracuse.

f. Purpose of Dam

The dam presently functions to control water levels in Skaneateles Lake. The City of Syracuse operates a water supply intake in Skaneateles Lake.

g. Design and Construction History

The Skaneateles Lake Dam was originally constructed in 1865. Indications are that the dam was reconstructed in approximately 1902. Recent renovations of the dam took place in 1975 when the walkway over the dam was reconstructed.

h. Normal Operational Procedures

The Skaneateles Lake Dam is operated by a full time staff employed by the City of Syracuse which is housed at the site. This staff provides 24 hour surveillance of the structure and operates the controls to maintain lake levels.

1.3 PERTINENT DATA

a. Drainage Area

The drainage area of Skaneateles Lake Dam is 72.3 square miles.

b. Discharge at Dam Site

No discharge records are available for this site.

Computed discharges:

| | |
|---|--------------------|
| Ungated spillway and gated outlet, top of dam | 860 cfs |
| Ungated spillway, top of dam | 500 cfs |
| Ungated and gated, design flood with lake at 863 ₊ | 2752 cfs (PMF) |
| | 1026 cfs (1/2 PMF) |
| Ungated spillway, design flood | 2763 cfs (PMF) |
| | 727 cfs (1/2 PMF) |

c. Elevation (feet above MSL)

| | |
|---------------------------------|---------------|
| Top of dam | 868.42 |
| Maximum pool - design discharge | 871 (PMF) |
| | 869 (1/2 PMF) |
| Spillway crest | 865.25 |
| Stream bed at centerline of dam | 848.25 |

d. Reservoir

| | |
|-----------------------|-------------|
| Length of normal pool | 80,000 feet |
|-----------------------|-------------|

e. Storage

| | |
|---|-----------------------------------|
| Normal storage (spillway crest) | 84,500 acre feet (rough estimate) |
| Design surcharge (spillway crest to top of dam) | 25,992 acre feet |
| (normal pool to top of dam) | 43,320 acre feet |

f. Reservoir Area

| | |
|---------------|-----------|
| Spillway pool | 8664 acre |
|---------------|-----------|

g. Dam

Type - Masonry.
Length - Approximately 150 feet.
Height - 19.5 feet.
Freeboard between normal reservoir and top of dam - 2.5 feet.
Top width - 5 feet.

Side slopes - Upstream - vertical.
Zoning - None.
Impervious Core - None.
Grout Curtain - Grouted in 1975.

h. Spillway

Type - Weir.
Length - 39 feet.
Crest Elevation - 865.92.
Gates - 6 - 3 x 3 foot sluice gates.
U/S Channel - None.
D/S Channel - Natural stream channel.

i. Regulating Outlets

6 - 3 x 3 foot sluice gates. 3 of the gates are metered into a 48 and 24 inch concrete pipe which discharge into the stream immediately below the dam.

SECTION 2 - ENGINEERING DATA

2.1 DESIGN

The information available for review for Skaneateles Lake Dam included:

- 1) Plans as shown in Figures 2 through 4.

2.2 CONSTRUCTION

No data was available in the construction of the dam.

2.3 OPERATION

See Section 4.

2.4 EVALUATION

In general, the information available has been adequate to perform this Phase I inspection. However, since this is a gravity dam, the guidelines normally require a stability analysis in the phase I report. The investigators could not obtain sufficient data in the time period available to perform this report to prepare a stability evaluation. The City of Syracuse may be able to locate additional documents which could support the preparation of this computation.

SECTION 3 - VISUAL INSPECTION

3.1 SUMMARY

a. General

The visual inspection of the Skaneateles Lake Dam was conducted on September 14, 1978. The dam is located just downstream from U.S. Route 20 which crosses the inlet channel just north of Skaneateles Lake. The dam is surrounded by commercial establishments which are located in the center of the Village of Skaneateles. The impoundment just upstream from the dam is used to moor small rowboats. Just south of the Route 20 bridge two large tour boats were moored in the inlet channel. A stone masonry retaining wall which formed the easterly bank of the channel has collapsed leaving only a 20 foot section of wall remaining immediately adjacent to the dam.

b. Dam

The dam and spillway are in excellent condition. The walkway and gate house across the dam have recently been reconstructed and are also in excellent condition. The receiving pool just downstream from the dam abuts the structure so that no inspection can be made adjacent to the downstream toe. There was no sign of seepage around the abutments of the dam. Minor erosion caused from pedestrian traffic has occurred at the abutments and on the banks of the impoundment just upstream from the dam. Many small boats are moored along the upstream face of the dam. These boats could become lodged in the spillway opening in the event of high water.

c. Spillway

The spillway of the dam is a masonry weir which drops immediately into the receiving stream. The spillway is, like the dam, in excellent condition.

d. Appurtenant Structures

A manhole (silo) is located just downstream from the dam near the center of the receiving stream. This manhole affords access to the metering equipment on the discharge pipes through the structure. This manhole appears to have been recently constructed and is in good condition.

e. Reservoir Area

Skaneateles Lake is heavily developed residentially in both year-round and summer residences. There are no known areas where unstable slopes occur. Sedimentation into the lake is negligible.

f. Downstream Channel

The receiving stream from the lake traverses through the Village of Skaneateles. The channel is in generally good condition but of relatively low flow capacity. The channel is flat and meanders for a quarter of a mile below the dam where it gradient steepens. A number of residential and commercial structures are located along this reach.

SECTION 4 - OPERATIONAL PROCEDURES

4.1 PROCEDURES

The Skaneateles Lake Dam is under full time surveillance by employees of the City of Syracuse who constantly regulate and meter flows from the lake. Lake level is maintained at elevation 863 on June 1 of any operating year. Lake levels are then allowed to recede to elevation 860.5 on approximately September 15 of the operating year to allow for spring thaws in the following year. The City of Syracuse withdraws approximately 58,000,000 gallons per day through their water supply intakes located approximately one mile out into the Lake.

4.2 MAINTENANCE OF THE DAM

The dam is maintained by the City of Syracuse. Full time surveillance assures adequate maintenance of the structure.

SECTION 5 - HYDROLOGY AND HYDRAULICS

5.1 EVALUATION OF FEATURES

The Skaneateles Lake Dam lies at the northern end of Skaneateles Lake. The drainage area of the dam is 72.3 square miles as planimetered from U.S.G.S. quad sheets, the lake is 15.1 miles long with a surface area of 13.5 square miles. The volume of the impoundment is purely a function of the natural watershed. For the dam's location, limited summary type historical information was obtained from the owner on the occurrence of flood events. Going back to 1917, the spillway has reportedly never been topped. Peak stages were recorded on July 1, 1922 and June 24, 1972 with stages of 864.6 and 865.25 from monthly rainfall totals of 10 and 10.7 inches. The spillway crest elevation is 865.25. (The owner reported that the spillway crest is 865.25, the plans indicate 865.90.) Also, no information relevant to the design of the dam was available for this investigation. The original dam was reportedly constructed to augment flows into the barge canal system. Later, the dam was reconstructed to include extra storage capability for water supply purposes. The outlet gates in the dam have a capacity of 240 M.G.D. This analysis was performed based on information obtained from the field inspection, information obtained from the owner, the plans included herein, U.S.G.S. quadrangle mapping and other sources of information and references listed in Appendix E. The hydrologic and hydraulic analysis is provided in Appendix C.

The purpose of this investigation is to evaluate the dam and spillway with respect to their flood control potential and adequacy. This has been assessed through the evaluation of the Probable Maximum Flood (PMF) for the watershed and the subsequent routing of the flood through the reservoir and the dam's spillway system. The PMF event is that hypothetical flow induced by the most critical combination of precipitation, minimum infiltration loss and concentration runoff of a specific location that is considered reasonably possible for a particular drainage area. Since this dam is in the Large Dam Category (due to the impoundment size) and is a High Hazard, the guidelines criteria (Ref. 1) require that the dam be capable of passing the Probable Maximum Flood.

The hydrologic analysis was performed using the unit hydrograph method to develop the flood hydrograph. Due to the limited scope of this Phase I investigation, certain assumptions, based in experience, were used in this analysis and in the determination of the dam's spillway capacity to pass the PMF. This was done with the concept, that if the dam was unable to satisfy this criteria, further refined hydrologic investigations would be required. In preparing the unit hydrograph, both Clark and Snyder coefficients were estimated. For the Clark Method, values of $T_c = 8.50$ and $R = 8.50$ were computed. The values of $R/(T_c + R)$ was estimated at 0.50 for the analysis. For the Snyder Method, values of $T_p = 9.85$ and $C_p = 0.625$ were computed. The

two unit hydrographs were developed from these parameters as well as two sets of PMF hydrographs. The resulting two PMF hydrographs developed from the two methods were then compared and evaluated. The PMF hydrograph was determined using the Probable Maximum Precipitation rainfall data obtained in Hydrometeorological Report No. 33. An index rainfall of 21.1 inches for 200 square miles for a period of 24 hours was used in the analysis. Base flow for the basin was assumed to be 2 cubic feet per second per square mile, while loss rates were set at 1.0 inches initial abstraction and 0.1 inches/ hour continuous loss rate. The loss rate functions for the basin yielded 16.75 inches of runoff from 20.04 inches of precipitation. The flood surcharge storage effect from the lake was assumed to vary linearly with the spillway elevation surface area (the lake's spillway elevation surface area times the surcharge depth yields storage - See Sheet C-4). In Case I only the service spillway was evaluated to pass the PMF hydrograph, with the other gates assumed to be either closed or not functionable. Since there is a dam keeper at the site on a full-time basis additional runs were made, in Case II, with the gates open and with the lake 2 feet below the spillway. The old dam spillway was at elevation 863.27 and it is reported that the owner of the dam tries to keep the lake at this elevation so that it does not flood low lying residents on the lake. The spillway capacity, (up to the top of the dam elevation) considering the service spillway, only was estimated at 500 cfs in Case I. With the gates open this amounts to 860 cfs in Case II. This was based on an effective spillway length of 39 feet with a discharge coefficient of 3.2. The overflow openings in the gatehouse were not considered in either Case I or Case II (this capacity amounts to upwards of 100 cfs). The elevation of the lake was assumed to be at the spillway crest (elevation 865.25) at the initiation of the Case I flood event.

The U. S. Army Corps of Engineers, Hydrologic Engineering Center's Computer Program HEC-1 using the Modified Puls Method for flood routing was used to evaluate the dam and spillway capacity. The results of this analysis are shown below:

HEC-1 PMF ANALYSIS

CASE I - SERVICE SPILLWAY ONLY

CASE II W/GATES

CLARK'S METHOD

SNYDER'S METHOD

CLARK'S METHOD

| Percent Of PMF | Run-off Discharge (CFS) | Routed Discharge (CFS) | Run-off Discharge (CFS) | Routed Discharge (CFS) | Run-off Discharge (CFS) | Routed Discharge (CFS) |
|----------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|
| 10 | 5006 | 138 | 4483 | 138 | 5006 | 253 |
| 20 | 10011 | 277 | 8967 | 276 | 10011 | 506 |
| 30 | 15017 | 422 | 13450 | 420 | 15017 | 739 |
| 40 | 20022 | 574 | 17933 | 572 | 20022 | 882 |
| 50 | 25028 | 727 | 22416 | 724 | 25028 | 1026 |
| 60 | 30034 | 997 | 26900 | 990 | 30034 | 1227 |
| 70 | 35039 | 1281 | 31383 | 1273 | 35039 | 1497 |
| 80 | 40045 | 1625 | 35066 | 1604 | 40045 | 1766 |
| 100 | 50056 | 2763 | 44833 | 2733 | 50056 | 2752 |

Based on the above results, the spillway is capable of passing only 40% of the PMF. Since this value is less than 50% according to the guidelines, the spillway is deemed to be severely inadequate. (Note that adding in the additional overflow capability through the gate house would bring this capability up to 45% of the PMF.) This analysis indicates the dam would be overtopped by approximately 3 feet with the PMF. A more indepth study in regards to the evaluation of the spillway capacity is therefore recommended. If futher analysis confirms these Phase I investigation results that the spillway is inadequate, it is then recommended that the owner modify the structure to provide for additional spillway capacity.

The existing condition with at least a dozen boats moored in the upstream spillway channel certainly lessens the dams spillway capacity to a level below that evaluated in this analysis. It is recommended that these boats be cleared from this area immediately.

SECTION 6 - STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observations And Data Review

The dam structure is one which is comparatively limited in size (on the order of 20 feet total height and a 150 foot length), having been located in a narrow outlet channel at the north end of Skaneateles Lake. The channel and dam is located within the highly developed commercial-residential area of Skaneateles Village. The dam structure shows no indication of misalignment, settlement, or other structural movement. Masonry visible in the various upstream and downstream faces of the dam is in good condition (it is understood renovation/repair to the gate house and dam masonry was recently performed). The condition of channel walls immediately upstream of the dam (some of the length is stone wall, other locations are sloped earth banks with varying amounts of riprap) varies from fair to poor. Some deterioration of the masonry wall and riprap areas has occurred, along with some erosion. A number of small boats (rowboat class) are kept moored along the channel and spillway banks (Photograph No. 7). A highway bridge for the Village's Main Street (Route 20) located a short distance up channel from the dam has a limited passage width for flow from Skaneateles Lake to the dam channel (Photograph No. 4). Large boats are moored in the channel area immediately south of this bridge (Photograph No. 2).

No evidence of seepage through the dam or around the abutment locations was noted. Some depth of water exists in the receiving stream below the downstream side of the dam, a condition which masks evidence of any foundation seepage. There was observed to be one location of an underwater streambed, discharge a short distance below the dam's downstream face, but it was not ascertained if this discharge was flowing from a pipe from the sluice gate metering equipment facility (Photograph No. 11) or other source. No significant stream bed erosion or effect on the dam structure could be related to the observed occurrence.

b. Geology and Seismic Stability

The State report of June 14, 1918 indicates the foundation for this dam is gravel material. Such description does not indicate whether the gravel is glacial till, which is relatively impervious, or a glacio-fluviatile gravel, which may be very permeable. Rock outcrops in the area of the dam site were not observed. The New York State Geologic Map (1970) indicates the bedrock in this area would be the Devonian Skaneateles Formation. Depending upon the depth of rock removal, (due to glacial erosion) the rock beneath the dam site would be either shale of the Delphi Station or Pompey member of the Skaneateles Formation.

The New York State Geologic Map (1970) does not show any fault traces for this region. The Preliminary Brittle Structures Map of New York (1977) does show a lineament following the trend of the lake and extending north of the lake. This lineament may be due to glacial erosion, although a hidden fault is possible. Smith (1935) does refer to several small faults in the region but does not indicate the presence of any in the vicinity of the dam.

This area is located in Zone 2 of the Seismic Probability Map. Earthquakes of low intensity are possible for the area.

Earthquakes recorded for the area are tabulated below:

| <u>Date</u> | <u>Intensity-Modified Mercalli</u> | <u>Location Relative to Dam</u> |
|-------------|------------------------------------|---------------------------------|
| 1925 | III | 17 mi. ENE |
| 1927 | IV | 17 mi. ENE |
| 1927 | III | 17 mi. ENE |
| 1945 | III | 4 mi. NNE |
| 1952 | III | 6 mi. SW |
| 1954 | IV | 12 mi. NW |

c. Data Review and Stability Evaluation

Reportedly, this dam was originally constructed in the 1890's. Design drawings available for review in this study have been limited to those dated 1975 which relate to renovation-repair for the gate house and underlying masonry section. These drawings generally indicate a wood timber foundation exists for the dam masonry but are unclear as to elevations of the foundation base and dimensioning of the dam's foundation and cross sections. These items are necessary for calculating lateral and uplift water pressures acting on the dam structure, and evaluating the stability of the dam in regard to overturning and sliding effects. Consequently, stability analysis have not been completed.

Corrective measures for this facility should include repair and stabilization of the upstream channel walls/banks to prevent erosion and accumulation of debris from developing in storm and high water periods, a condition which could effect the passage of flow through the dam's trash racks and over the spillways. Similarly, it appears that the presence of boats in the upstream channel, both at the north and south sides of the Highway Route 20 Bridge a short distance upstream of the dam, will present a hazard to lake channel flow in storm periods. These boats should be removed.

SECTION 7 - ASSESSMENT/REMEDIAL MEASURES

7.1 DAM ASSESSMENT

This Phase I investigation has determined that the dam is in need of further evaluation. Since the dam is a gravity dam structure, the Corps of Engineer's screening criteria requires a stability analysis of the dam. Due to the limited data available for the Phase I investigation, this analysis could not be performed.

Reportedly, this dam was originally constructed in the 1890's. Design drawings available for review in this study have been limited to those dated 1975 which related to renovation-repair for the gate house and underlying masonry section. These drawings generally indicate a wood timber foundation exists for the dam masonry but are unclear as to elevations of the foundation base and dimensioning of the dam's foundation and cross sections. These items are necessary for calculating lateral and uplift water pressures acting on the dam structure, and evaluating the stability of the dam in regard to overturning and sliding effects. Consequently, stability analysis have not been completed.

The main area of concern is that the spillway has been found to be seriously inadequate, since it can pass only 45 percent of the Probable Maximum Flood (PMF). The spillway capacity is 860 cfs with the outlet gates and uncontrolled spillway taken into account. Since the dam site is staffed full-time, based on previous reports on the operation of the gates during prior storm events, the additional capacity of 360 cfs through the gates has added to the report.

Apparently, it has not been the practice of the owner of the dam or the Village of Skaneateles to restrict boats from being moored in the entrance channel and in the spillway area. This unsafe condition during a severe flood event could manifest itself in a number of ways. The boats moored at the entrance channel could be swept into the bridge channel clogging up the channel and restricting flows to the dam. The boats in the spillway area could clog up the spillway and the sluice gate inlets also restricting flows through the dam. The high flow velocities in the spillway area could also release the boats and other floatables into the downstream area where they could carom into structures and/or lodge in downstream bridge openings.

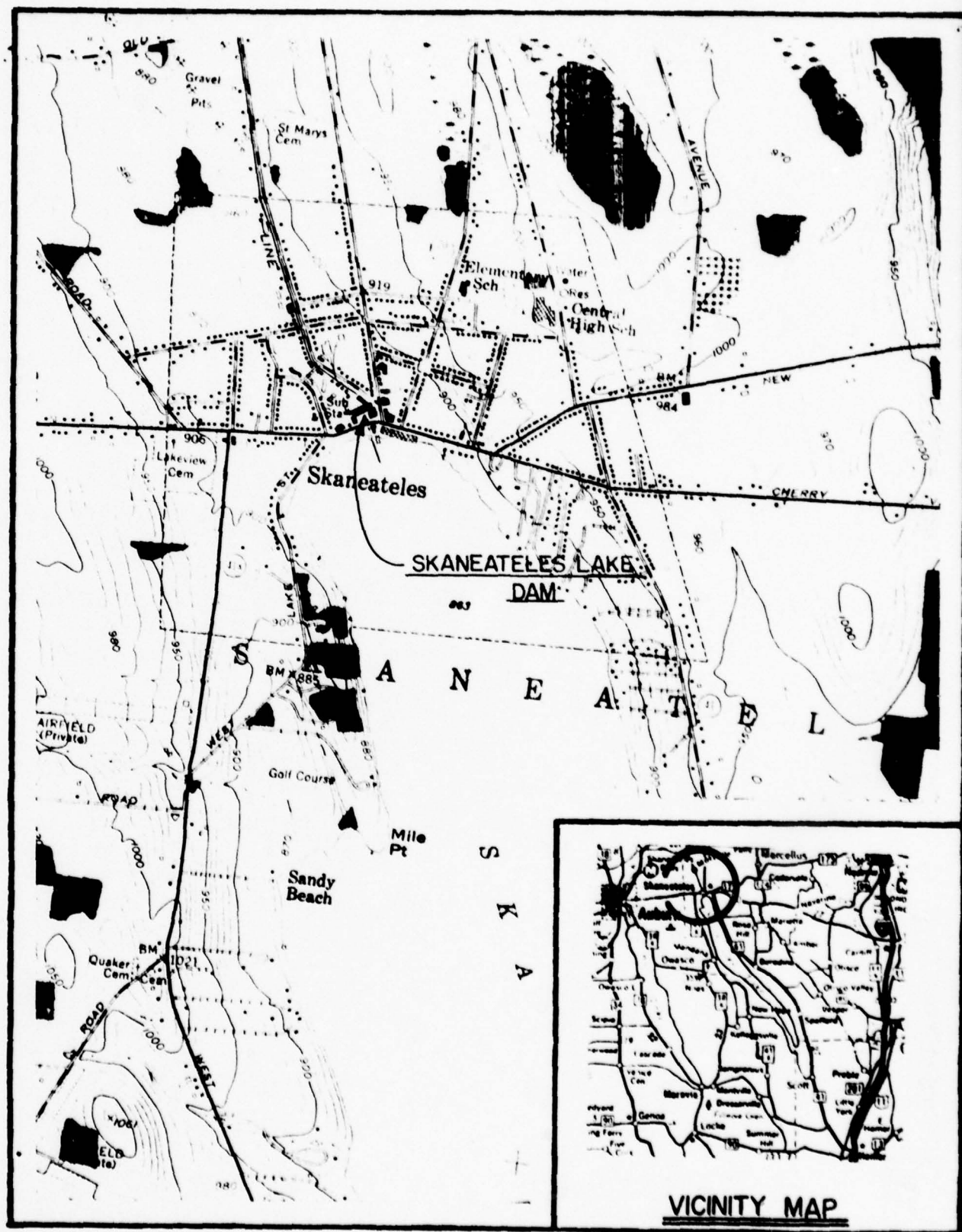
7.2 REMEDIAL MEASURES

The following investigative work and remedial measures are recommended:

- 1) Further analysis of the dam's spillway capacity is recommended to refine the computations provided herein. Since the spillway has been found to be seriously inadequate, it is recommended that the owner take immediate action to provide round-the-clock

surveillance during periods of unusually high runoff and have a contingency plan in the event of dam overtopping.

- 2) It is recommended that the owner locate information of the structural foundation and provide a stability analysis to amend this report.
- 3) At least a dozen boats are moored in the upstream spillway channel. These should be removed.
- 4) Two large boats are located in the entrance channel on the lake. These boats should also be removed.
- 5) The upstream channel walls/banks should be repaired and stabilized.



CITY OF SYRACUSE

ONONDAGA COUNTY, NEW YORK

RENOVATION OF SKANEATELES DAM

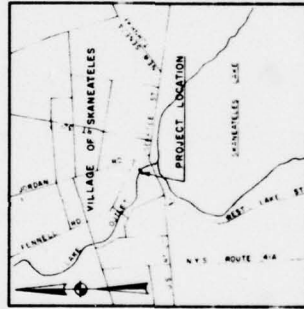
RECEIVED

MAYOR

LEE A. EXANDER

SYRACUSE COMMON COUNCIL
NEAL P. MC CURN PRESIDENT
JAMES P. MC CARTHY
RONALD W. WONGSOUR
RICHARD A. GRUDZINSKI
VINCENT A. O'NEIL
JAMES C. TORNEY, JR.
ARMOND J. MAGNARELLI
WALTER J. LUDOVICO

CITY ENGINEER
HARRY ROOK P.E.



SCALE 1" = 100'

LOCATION PLAN

APPROVED BY _____ DATE _____
CITY ENGINEER

APPROVED BY _____ DATE _____
CITY CLERK

APPROVED BY _____ DATE _____
TOWN CLERK OF TOWN

ORDERED BY COMMON COUNCIL _____ DATE _____
CITY CLERK

ADVANCE PRINT

PREPARED BY: KENTON ENGINEERS, P.C.

DATE: 10/1/78

FIGURE 2

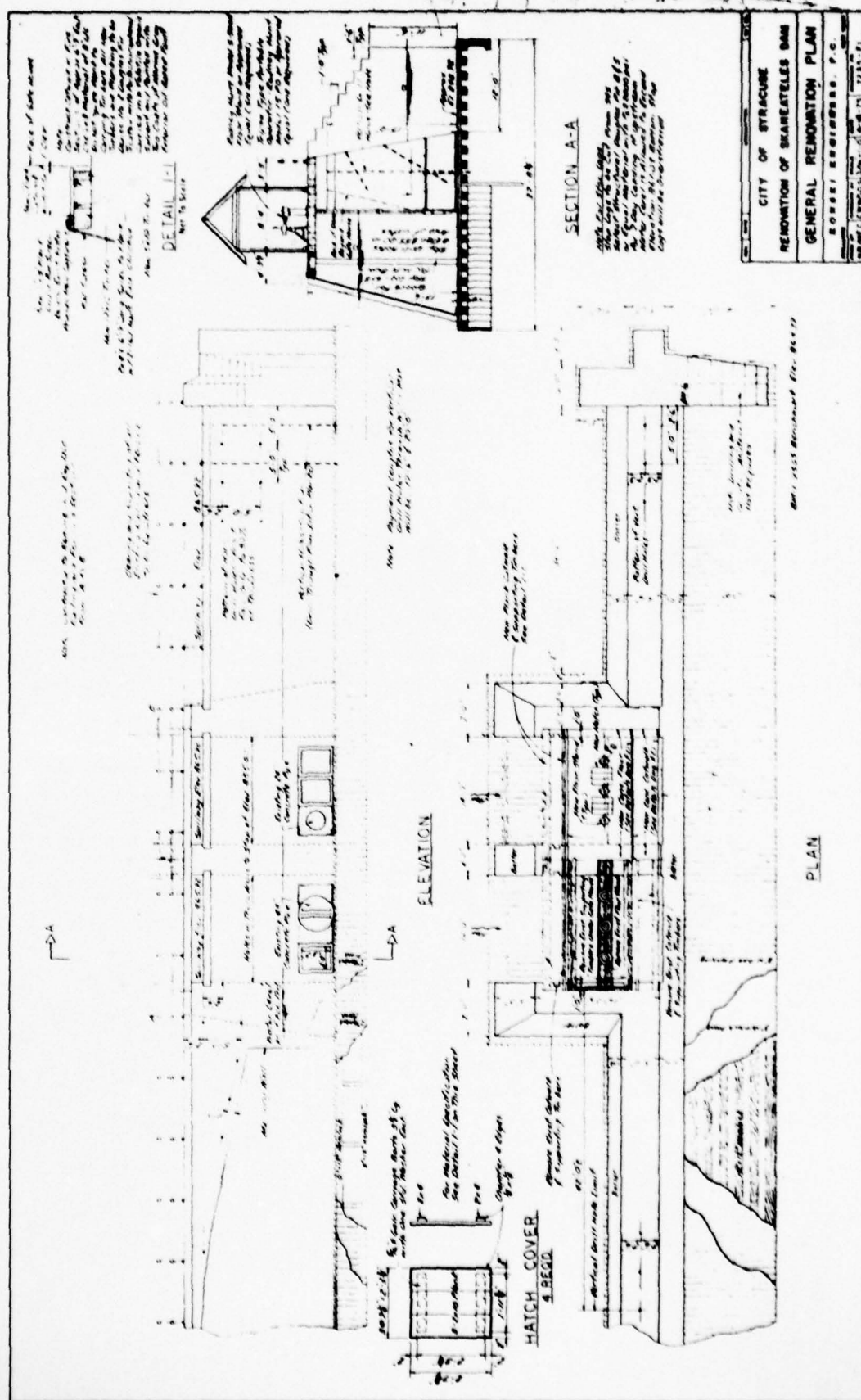


FIGURE 3

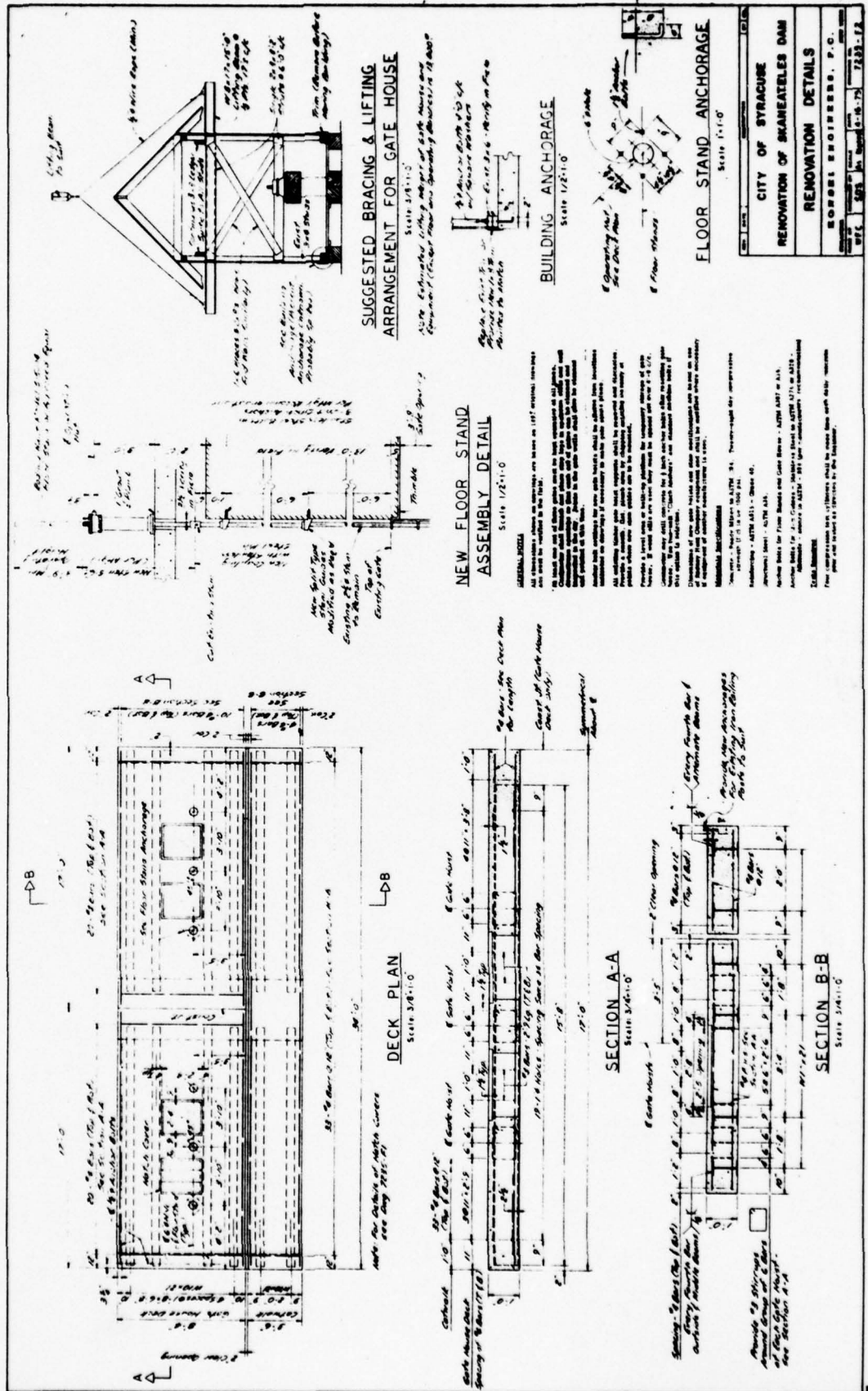


FIGURE 4

APPENDIX A
FIELD INSPECTION REPORT

CHECK LIST
VISUAL INSPECTION

PHASE 1

Name Dam SKANEATELES County ONONDAGA State NEW YORK ID # 414
Type of Dam MASONRY Hazard Category HIGH
Date(s) Inspection SEPT. 14, 1978 Weather CLOUDY, WINDY Temperature 65° F.

Pool Elevation at Time of Inspection 859.5 M.S.L. Tailwater at Time of Inspection 853.6

Inspection Personnel:

| | |
|------------------------|---------------------------------|
| <u>N. F. DUNLEVY</u> | <u>DALE ENGINEERING COMPANY</u> |
| <u>F. W. BYSZEWSKI</u> | <u>DALE ENGINEERING COMPANY</u> |
| <u>H. MUSKATT</u> | <u>DALE ENGINEERING COMPANY</u> |
| <u>D. F. MC CARTHY</u> | <u>DALE ENGINEERING COMPANY</u> |

N.F. DUNLEVY/F.W. BYSZEWSKI Recorders

CONCRETE/MASONRY DAMS

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|--|---|---|
| ANY NOTICEABLE SEEPAGE | Tailwater at base of dam. No observation of seepage. | Dam is fenced in and is not accessible to public (see plans). |
| STRUCTURE TO ABUTMENT/EMBANKMENT JUNCTIONS | Good condition. Minor erosion due to pedestrian traffic. | |
| DRAINS | Not applicable. | |
| WATER PASSAGES | None. | |
| FOUNDATION | No observation. | In the last three years the dam has been grouted. |

CONCRETE/MASONRY DAMS

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|-------------------------------------|---------------------------------|----------------------------|
| SURFACE CRACKS CONCRETE SURFACES | None. | |
| STRUCTURAL CRACKING | None. | |
| VERTICAL & HORIZONTAL ALIGNMENT | Good. | |
| MONOLITH JOINTS | None observed. | |
| CONSTRUCTION JOINTS | None observed. | |
| STAFF GAGE OF RECORDER | (See notes for tailwater elev.) | |

EMBANKMENT

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|--|-----------------|----------------------------|
| SURFACE CRACKS | Not applicable. | |
| UNUSUAL MOVEMENT OR CRACKING AT OR BEYOND THE TOE | Not applicable. | |
| SLOUGHING OR EROSION OF EMBANKMENT AND ABUTMENT SLOPES | Not applicable. | |
| VERTICAL AND HORIZONTAL ALINEMENT OF THE CREST | Not applicable. | |
| RIPRAP FAILURES | Not applicable. | |

EMBANKMENT

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|---|-----------------|----------------------------|
| | | |
| JUNCTION OF EMBANKMENT AND ABUTMENT, SPILLWAY AND DAM | Not applicable. | |
| ANY NOTICEABLE SEEPAGE | Not applicable. | |
| STAFF GAGE AND RECORDER | Not applicable. | |
| DRAINS | Not applicable. | |

UNGATED SPILLWAY

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|----------------------------|--|--|
| CONCRETE WEIR (Masonry) | Good condition. | |
| APPROACH CHANNEL | Obstructed by boats. Both south of Genesee St. Bridge and immediately in front of dam. | Genesee St. Bridge is 150 feet south of dam. |
| DISCHARGE CHANNEL | Stable. A number of pipes, mostly water mains and storm sewers, either cross or discharge into the stream. | |
| BRIDGE AND PIERS | Newly reconstructed; in excellent condition. | |
| | | |

GATED SPILLWAY

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|-------------------------------|---|----------------------------|
| CONCRETE SILL (Masonry) | Good condition. | |
| APPROACH CHANNEL | Trash racks are clear. | |
| DISCHARGE CHANNEL | Clear. Submerged discharge immediately below dam into a stilling basin area in the existing stream channel. | |
| BRIDGE AND PIERS | Good condition; newly constructed. | |
| GATES AND OPERATION EQUIPMENT | New; replaced 1975. | |

OUTLET WORKS

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|--|--|----------------------------|
| CRACKING AND SPALLING OF CONCRETE SURFACES IN OUTLET CONDUIT | None observed. Outlet pipes are submerged. | |
| INTAKE STRUCTURE | Built into center of dam which is in good condition. | |
| OUTLET STRUCTURE | Submerged pipe. | |
| OUTLET CHANNEL | Good condition. All channels described in this inspection report are the same channel. | |
| EMERGENCY GATE | None. | |

DOWNSTREAM CHANNEL

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|---|--|---|
| CONDITION (OBSTRUCTIONS, DEBRIS, ETC.) | Clear. | This channel does not have high discharge capacity. The 60 sq. mi. basin requires a high amount of reservoir storage. |
| SLOPES | Steep; stable. | |
| APPROXIMATE NO. OF HOMES AND POPULATION | At least six homes are located close to stream with yards 2-3 feet above stream, home first floor 4 ft. \pm . These are located 1/4 ~ 1/2 mile downstream. | The channel steepens further down stream which was not investigated. |
| | | |
| | | |

INSTRUMENTATION

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|-----------------------|--------------|----------------------------|
| MONUMENTATION/SURVEYS | None. | |
| OBSERVATION WELLS | None. | |
| WEIRS | None. | |
| PIEZOMETERS | None. | |
| OTHER | | |

RESERVOIR

| VISUAL EXAMINATION OF | OBSERVATIONS | REMARKS OR RECOMMENDATIONS |
|-----------------------|--------------------------|----------------------------|
| SLOPES | Large recreational lake. | |
| SEDIMENTATION | Minor. | |
| | | |
| | | |
| | | |
| | | |

CHECK LIST
ENGINEERING DATA
DESIGN, CONSTRUCTION, OPERATION
PHASE 1

NAME OF DAM Skaneateles Lake Dam

ID # N.Y. 414

| ITEM | REMARKS |
|---|--|
| AS-BUILT DRAWINGS | None. |
| REGIONAL VICINITY MAP | See this report. |
| CONSTRUCTION HISTORY | Original dam built 1865 according to DEC Dam Report 573-B dated June 14, 1918. |
| TYPICAL SECTIONS OF DAM | See this report. |
| OUTLETS - PLAN - DETAILS - CONSTRAINTS - DISCHARGE RATINGS | See this report. |
| RAINFALL/RESERVOIR RECORDS | None. |

| ITEM | REMARKS |
|---|--|
| DESIGN REPORTS | No data on original design. DEC has 1975 plans and specs on work to grout foundation, sett new decking and removal of an old dam. <i>install</i> |
| GEOLOGY REPORTS | None. |
| DESIGN COMPUTATIONS HYDROLOGY & HYDRAULICS DAM STABILITY SEEPAGE STUDIES | None. |
| MATERIALS INVESTIGATIONS BORING RECORDS LABORATORY FIELD | None. |
| POST-CONSTRUCTION SURVEYS OF DAM | None. |
| BORROW SOURCES | None. |

| ITEM | REMARKS |
|---|---|
| MONITORING SYSTEMS | None. |
| MODIFICATIONS | See this report. |
| HIGH POOL RECORDS | No data. |
| POST CONSTRUCTION ENGINEERING STUDIES AND REPORTS | No data. |
| PRIOR ACCIDENTS OR FAILURE OF DAM DESCRIPTION REPORTS | No data. |
| MAINTENANCE OPERATION: RECORDS | Some information may be obtained from City of Syracuse. |

| ITEM | REMARKS |
|--|------------------|
| SPILLWAY PLAN SECTIONS DETAILS | See this report. |
| OPERATING EQUIPMENT PLANS & DETAILS | See this report. |

CHECK LIST
HYDROLOGIC & HYDRAULIC
ENGINEERING DATA

DRAINAGE AREA CHARACTERISTICS: 72.3 sq. mi.

ELEVATION TOP NORMAL POOL (STORAGE CAPACITY): 863

ELEVATION TOP FLOOD CONTROL POOL (STORAGE CAPACITY): 865.25

ELEVATION MAXIMUM DESIGN POOL: --

ELEVATION TOP DAM: 868.42

CREST:

a. Elevation 865.25

b. Type Masonry Weir

c. Width 5 Ft.

d. Length 39 Ft.

e. Location Spillover West End

f. Number and Type of Gates

OUTLET WORKS:

a. Type (6) Sluice Gates

b. Location Center of dam, low level

c. Entrance Inverts 848.92

d. Exit Inverts 848.92

e. Emergency Draindown Facilities These sluice gates.

HYDROMETEOROLOGICAL GATES:

a. Type None

b. Location

c. Records

MAXIMUM NON-DAMAGING DISCHARGE: ----

APPENDIX B
PREVIOUS INSPECTION REPORTS
AND CORRESPONDENCE

MCCARTHY BUILDING
113 E. ONONDAGA STREET
SYRACUSE, NEW YORK 13202
(315) 471-2101
CABLE ADDRESS KONENGRS

JAMES L. KONSKI, P.E.
WILLIAM M. HUGHES, P.E.
CHARLES W. WOOD, P.E.
S. DAVIS STINSON, P.E.
ASSOCIATES

KONSKI ENGINEERS, P.C.

PLANNING, DESIGN, AND
CONSTRUCTION INSPECTION
BRIDGES AND HIGHWAYS
PARKING FACILITIES
INDUSTRIAL STRUCTURES
PHOTOGRAMMETRY, MAPPING
DAMS, AIRPORTS, SOLID WASTE
WATER AND SEWAGE SYSTEMS
BICYCLE FACILITIES
INVESTIGATIONS AND REPORTS

May 2, 1975

New York State Department of
Environmental Conservation
Environmental Analysis Unit
Region 7
P. O. Box 1169, Fisher Avenue
Cortland, New York 13045

RECEIVED

MAY - 8 1975

DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
REGION NO. 7
LOCAL PERMIT AGENT

Attention: Mr. Robert J. Harding,
Associate Aquatic Biologist

PROJECT NO. 7235
CITY OF SYRACUSE DAM
AT SKANEATELES, NEW YORK

Gentlemen:

We are transmitting herewith for your review and approval five (5) advance sets (3 sheets per set) of the plans and specifications relative to the above project.

The project is for renovation of the existing stone masonry dam owned by the City of Syracuse and located on the outlet to Skaneateles Lake approximately two hundred (200) feet north of the Genesee Street Bridge in the Village of Skaneateles.

No structural or hydraulic modifications to the dam or appurtenances are involved. There would therefore appear to be no cause for any change in the flow characteristics of the lake or stream.

New York State Department of Environmental Conservation

MEMORANDUM

TO:
FROM:
SUBJECT:

Lou Conera
A. Coburn
Project No. 7235, City of Syracuse Dam at Skaneateles
New York
May 12, 1975

DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
RECEIVED

MAY 14 1975

OFFICE OF
ENVIRONMENTAL ANALYSIS

The enclosed contract document and drawing (one have been received at the Cortland office.

As the transmittal letter (copy attached) indicates, no structural or hydraulic modifications and no applications for a permit were included. It would be appreciated if you would review the documents and let us know of your requirements, if any.

A. A. Coburn
A. A. Coburn
Project Review Engineer

AAC:jwc
Enc.

Kolar - file

A. Coburn

S. Zeccolo

Project No. 7235, City of Syracuse Dam at Skaneateles, NY

May 16, 1975

No permit will be necessary for this work. You may send them a letter notifying them to proceed with this work. The plans and specifications that you have sent us will be transmitted to the appropriate dam file for this structure.

SJZ:scs

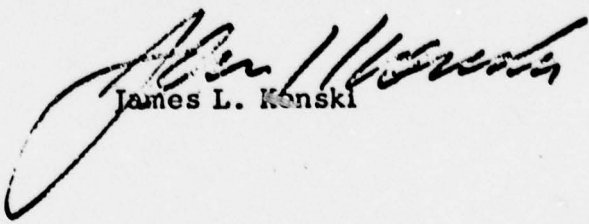
New York State Department of
Environmental Conservation
May 2, 1975
Page Two

The proposed scope of work includes joint repair, pressure grouting, new concrete floor in gatehouse and portion of catwalks, reconditioning of existing control gates and installation of new stems, and new crank operated floor stands.

The City is anticipating a Spring 1975 letting of this project. Please feel free to call us if we can be of any assistance in expediting this project.

Sincerely yours,

KONSKI ENGINEERS, P. C.



James L. Konski

CWW:dmp

CC: Mr. Harry E. Rook, P. E.

(NOTICE: After filling out one of these forms as completely as possible for each dam in your district, return it at once to the Conservation Commission, Albany.)

STATE OF NEW YORK
CONSERVATION COMMISSION
ALBANY

DAM REPORT
573-B

June 14, 1918
(Date)

CONSERVATION COMMISSION,

DIVISION OF WATERS.

GENTLEMEN:

I have the honor to make the following report in relation to the structure known as the New York State Dam.

This dam is situated upon the Skaneateles Creek
(Give name of stream)
in the Town of Skaneateles, Onondaga County,
about 1/2 mile from the Village or City of Skaneateles
(State distance)

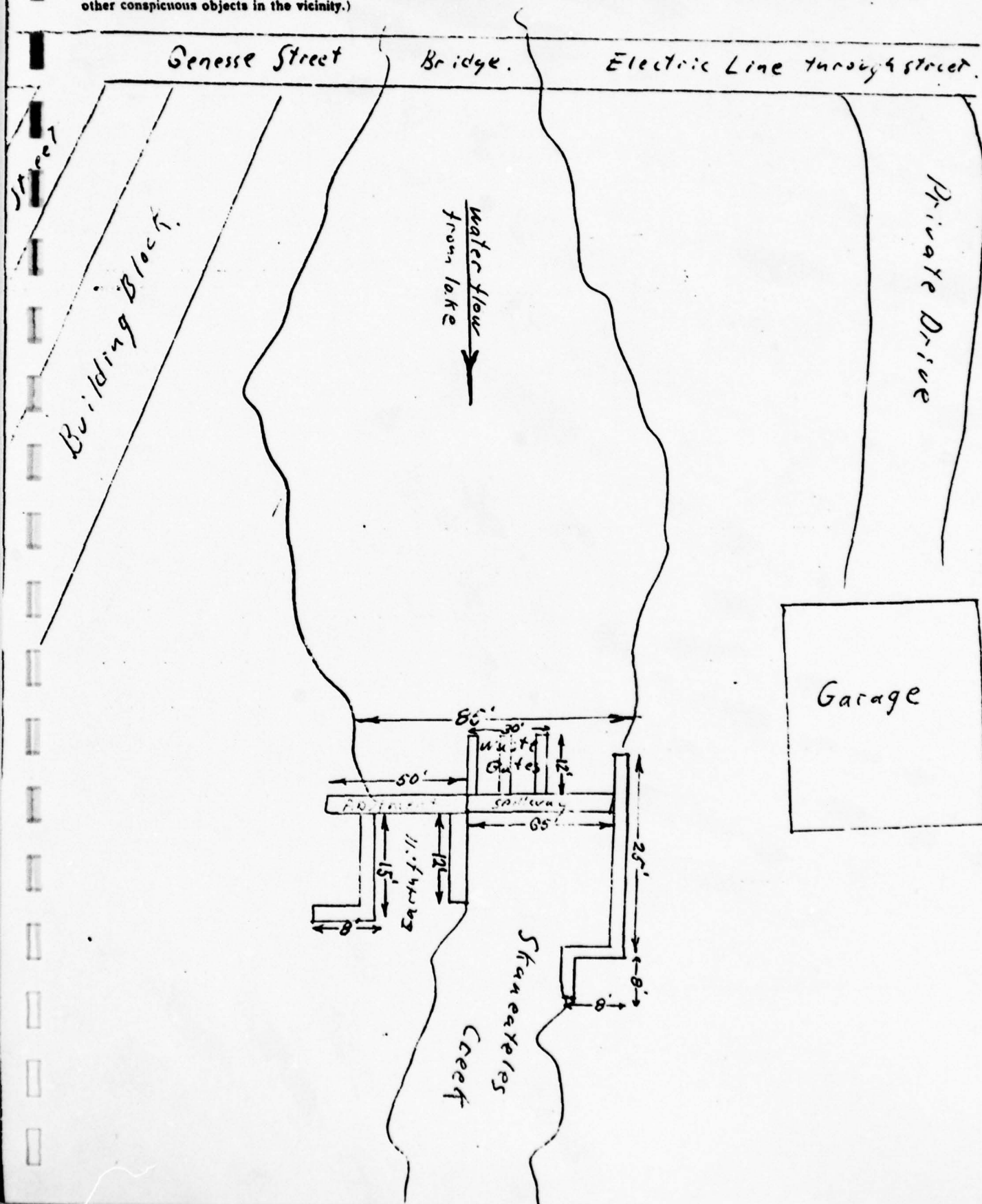
The distance up stream from the dam, to the Skaneateles Lake,
(Up or down) (Give name of nearest important stream or of a bridge)
is about 250 feet
(State distance)

The dam is now owned by New York State
(Give name and address in full)
and was built in or about the year 1865, and was extensively repaired or reconstructed during the year —

As it now stands, the spillway portion of this dam is built of masonry
(State whether of masonry, concrete or timber)
and the other portions are built of masonry
(State whether of masonry, concrete, earth or timber with or without rock fill)

As nearly as I can learn, the character of the foundation bed under the spillway portion of the dam is gravel and under the remaining portions such foundation bed is gravel

(In the space below, make a third sketch showing the general plan of the dam, and its approximate position in relation to buildings or other conspicuous objects in the vicinity.)



the dam, and its approximate position in relation to buildings or

(In the space below, make one sketch showing the form and dimensions of the dam and outline the abutment, and a second sketch showing the dam. Show particularly the greatest height of the dam above the water level as nearly as you can learn.)

Electric Line through street.

Private Drive

Garage

Masonry Abutment

Water level

Wash

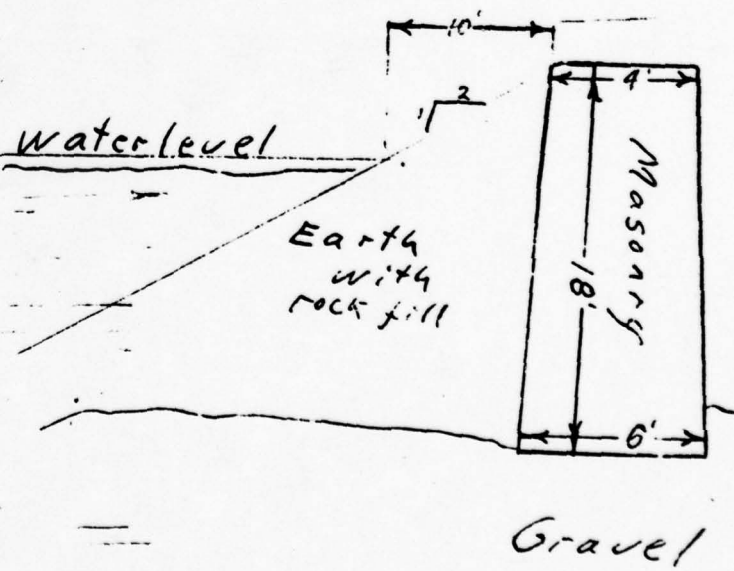
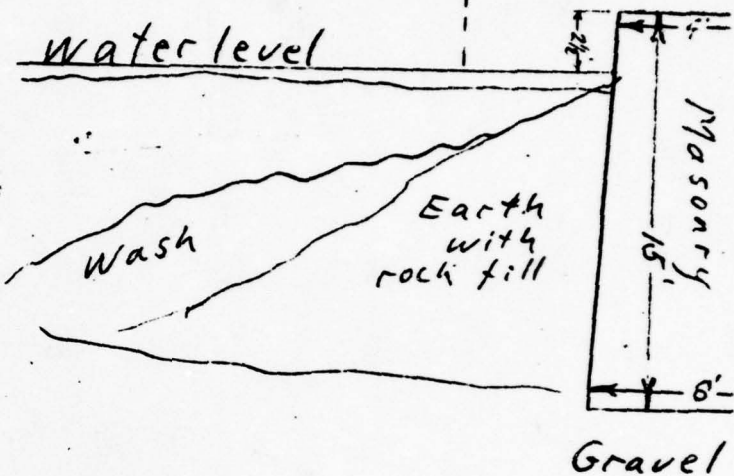
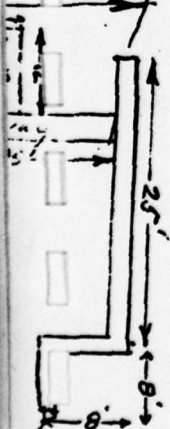
Earth with rock fill

Gravel

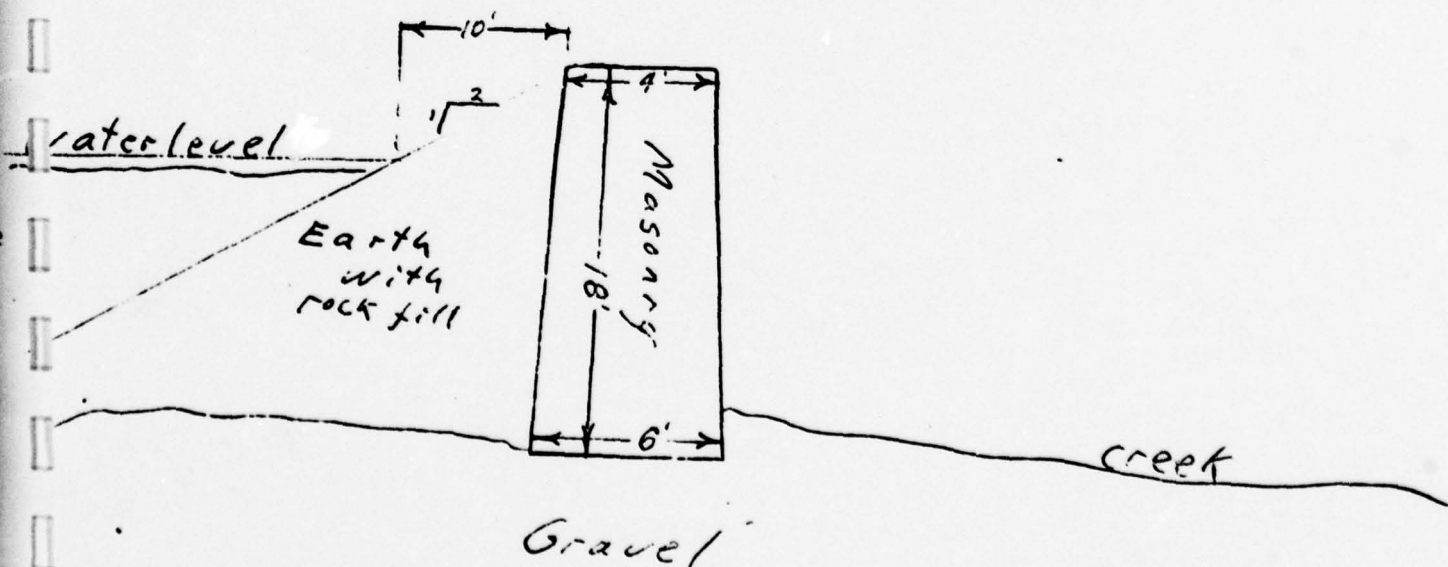
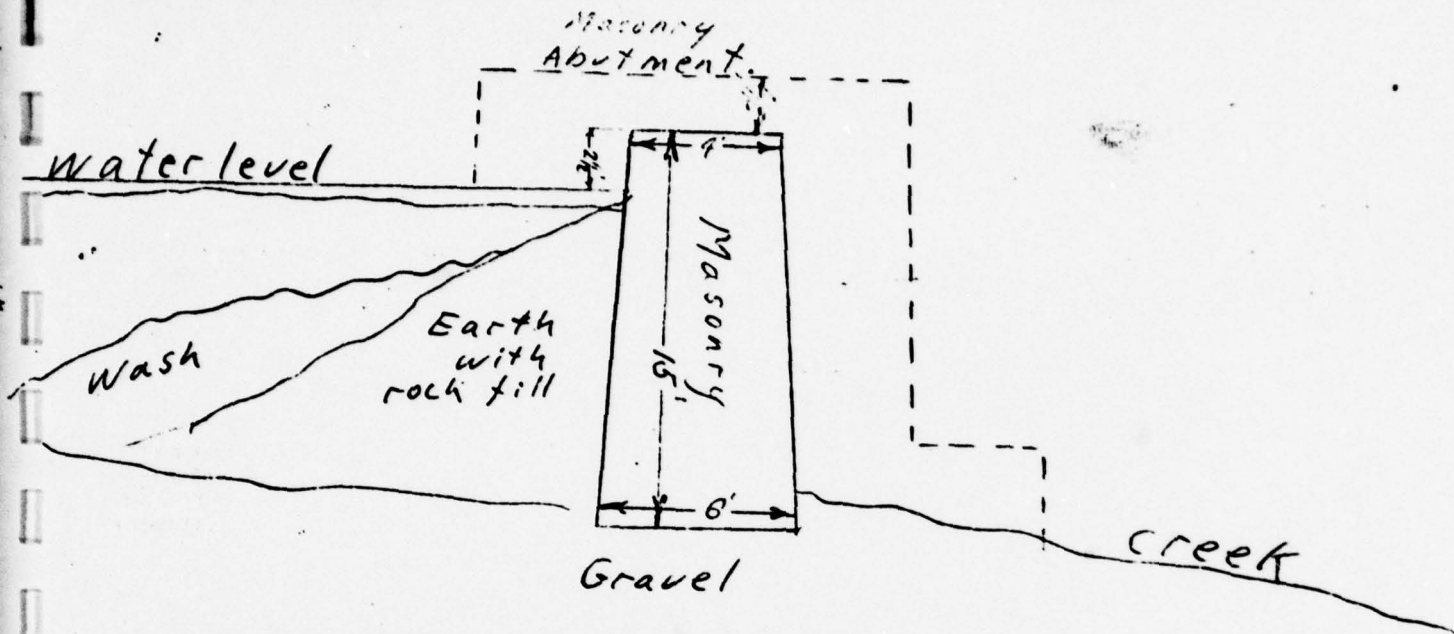
Water level

Earth with rock fill

Gravel



(In the space below, make one sketch showing the form and dimensions of a cross section through the spillway or waste-weir of this dam and outline the abutment, and a second sketch showing the same information for a cross section through the other portion of the dam. Show particularly the greatest height of the dam above the stream bed, its thickness at the top, and thickness at the bottom, as nearly as you can learn.)



The total length of this dam is 85 feet. The spillway or waste-weir portion, is about 65 feet long, and the crest of the spillway is about 2.5 feet below the abutment.

The number, size and location of discharge pipes, waste pipes or gates which may be used for drawing off the water from behind the dam, are as follows: 6-3' by 2' waste gates
in base of spill way

At the time of this inspection the water level above the dam was 2 ft. 6 in.
~~below~~ ^{above} the crest of the spillway.

(State briefly, in the space below, whether, in your judgment, this dam is in good condition, or bad condition, describing particularly any leaks or cracks or erosions which you may have observed.)

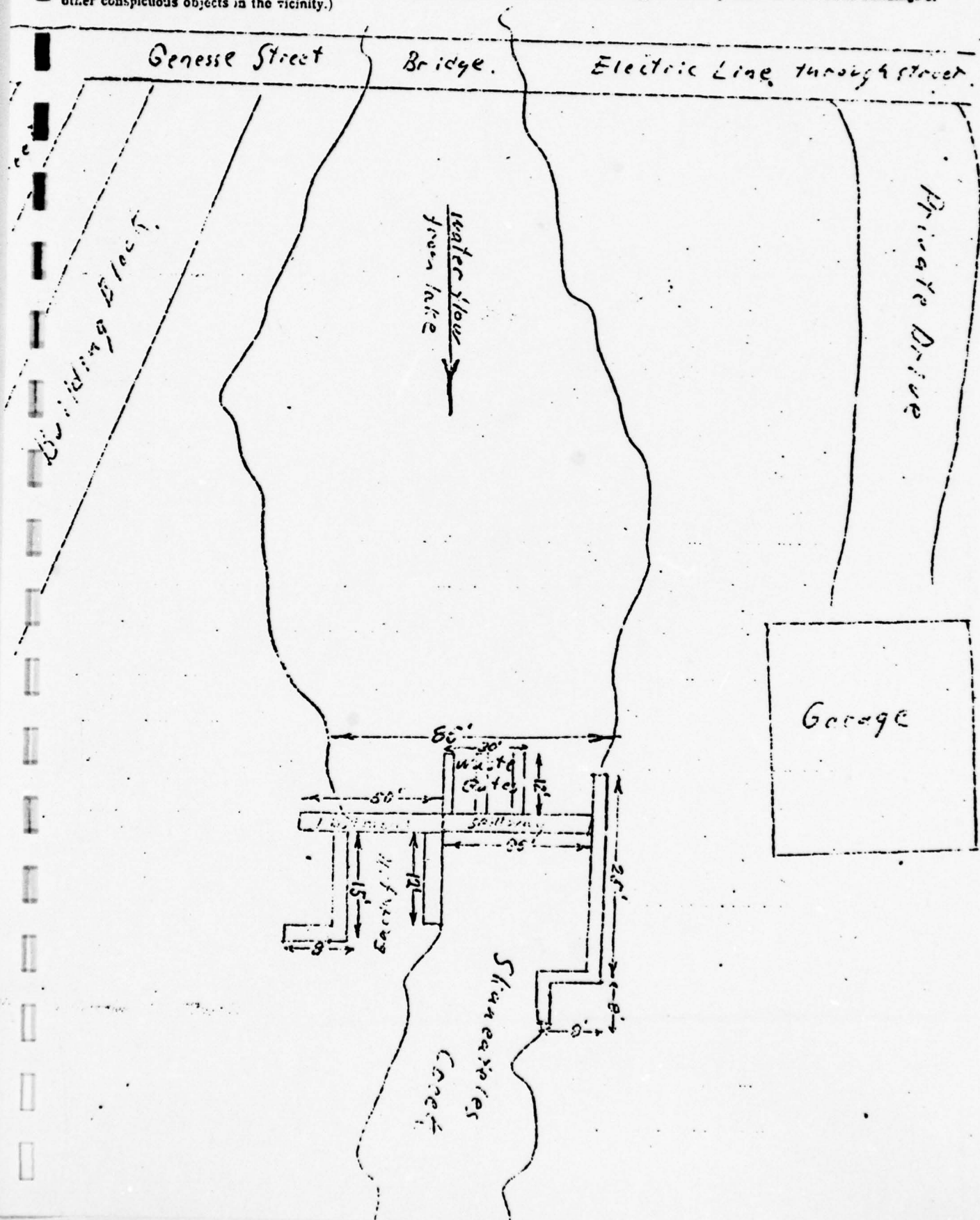
Dam appears in good condition.
Should dam go out it would do great damage
due to large body of water in Skaneateles Lake.

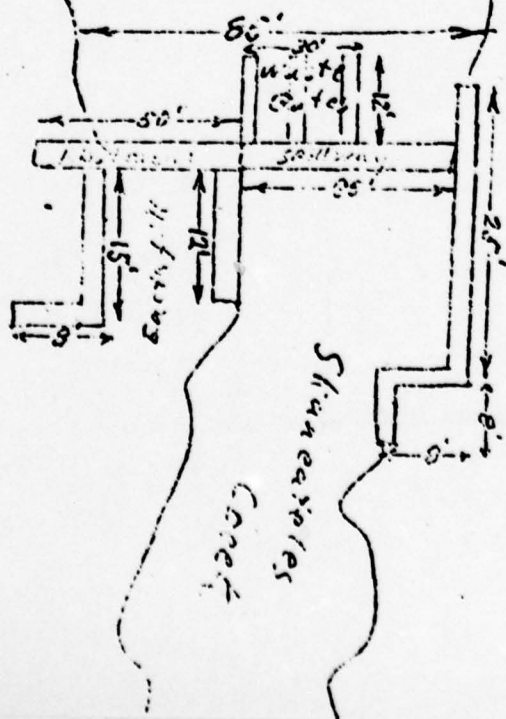
Reported by Dwight C. Salk
(Signature)

200 Willow Way
(Address—Street and number, P. O. Box or R. F. D. route)

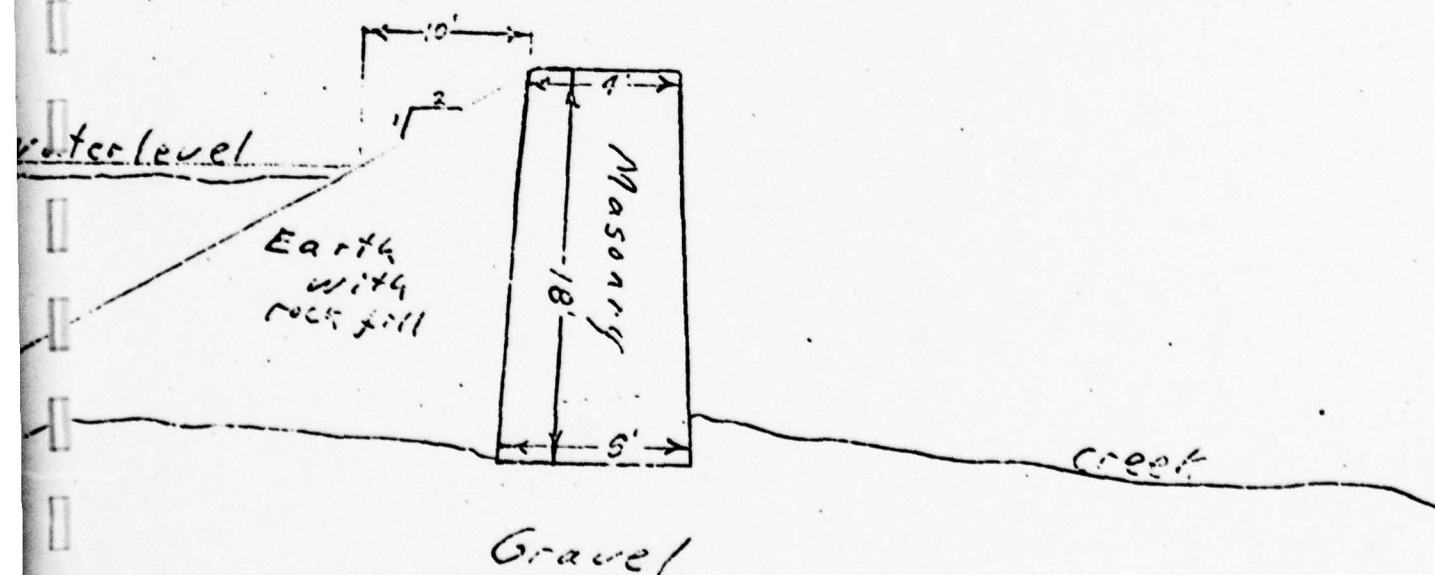
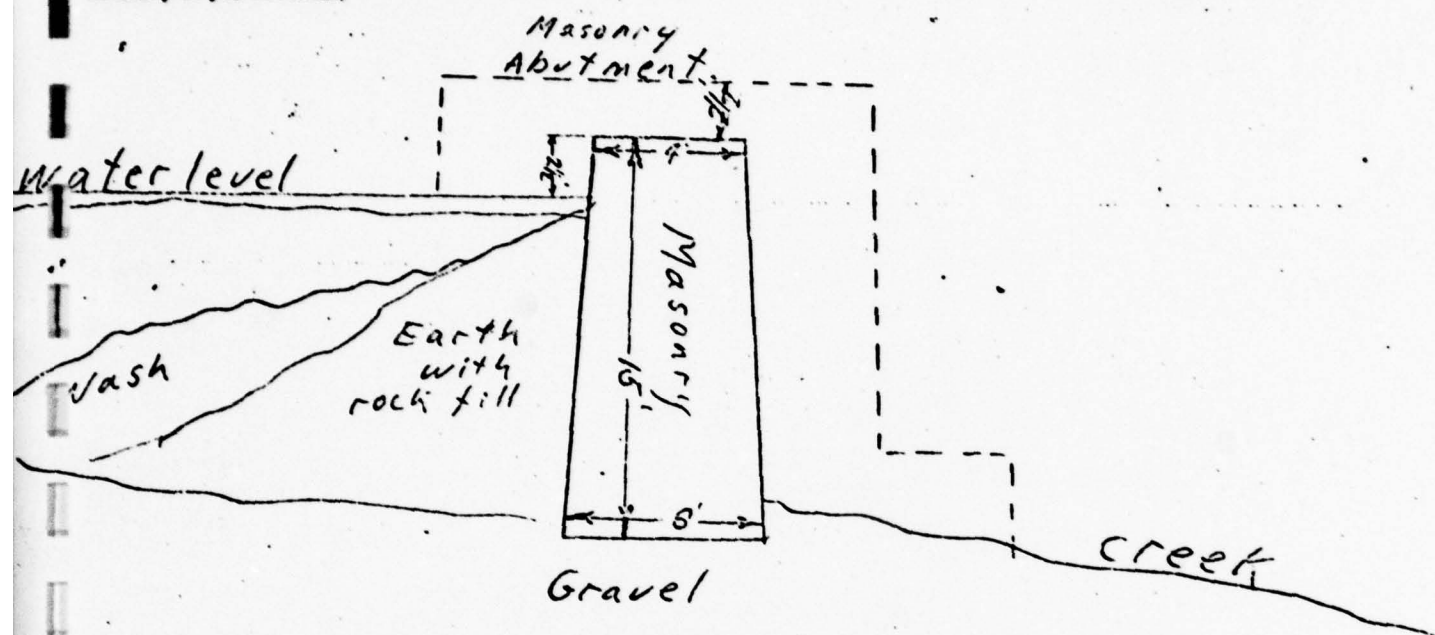
Ithaca, N.Y.
(Name of place)

(In the space below, make a third sketch showing the general plan of the dam, and its approximate position in relation to buildings or other conspicuous objects in the vicinity.)





(In the space below, make one sketch showing the form and dimensions of a cross section through the spillway or waste-weir of this dam and outline the abutment, and a second sketch showing the same information for a cross section through the other portion of the dam. Show particularly the greatest height of the dam above the stream bed, its thickness at the top, and thickness at the bottom, as nearly as you can learn.)





APPENDIX C

HYDROLOGIC AND HYDRAULIC COMPUTATIONS



STETSON • DALE

BANKERS TRUST BUILDING
UTICA • NEW YORK • 13501
TEL 315-797-5800

DESIGN BRIEF

PROJECT NAME NY DAM INSPECTION DATE 9.14.78
SUBJECT SKANEATELES LAKE DAM PROJECT NO. 2210
DRAWN BY JPG

ESTIMATE OF CLARK'S PARAMETERS

ESTIMATE OF T_c

$$T_c = 11.9 (L^3/H)^{.385} = (11.9 (19.11)^3 / 1034)^{.385} = 5.412 \text{ HRS}$$

SL_S

$$L = \frac{1.8 (S+1)^{.7}}{1900 Y^{.5}} = \frac{(100900)^8 (3.89+1)^{.7}}{1900 (10.0)^{.5}}$$

$$S = \frac{1000}{L} - 10 = 3.89$$

$$= \frac{30593.5}{6008.33} = 5.092$$

$$T_c = L / .6 = 8.486 \text{ Hrs}$$



STETSON • DALE

BANKERS TRUST BUILDING
UTICA • NEW YORK • 13501
TEL 315-797-5800

DESIGN BRIEF

PROJECT NAME

NY DAM INSPECTION

DATE

9.15.78

SUBJECT

SKANEATELES LAKE DAM

PROJECT NO.

2210

DRAWN BY

JPG

ESTIMATE OF SNYDER'S PARAMETERS

$$640 C_p =$$

$$C_p = .625$$

$$t_p = C_t (L \cdot L_{CA})^{.3} = 2.0 (19.11 \times 9.55)^{.3} \\ = 9.537$$

$$t_r = t_p / 5.5 = 9.537 / 5.5 = 1.734$$

$$t_{pr} = t_p + .25 (t_r - t_p) = 9.537 + .25 (3.0 - 1.734) \\ = 9.854$$

Shaded 1.0 min

SUMMARY OF PARAMETERS

CLARK'S

BPR

SCS (LN METHOD)

NORTH ATLANTIC

$$T_c = 5.412$$

$$T_c = 8.486$$

$$T_c =$$

SNYDER'S

$$C_p = .625$$

$$t_{pr} = 9.854$$

Assume $R/(T_c + Q) \approx 0.5$

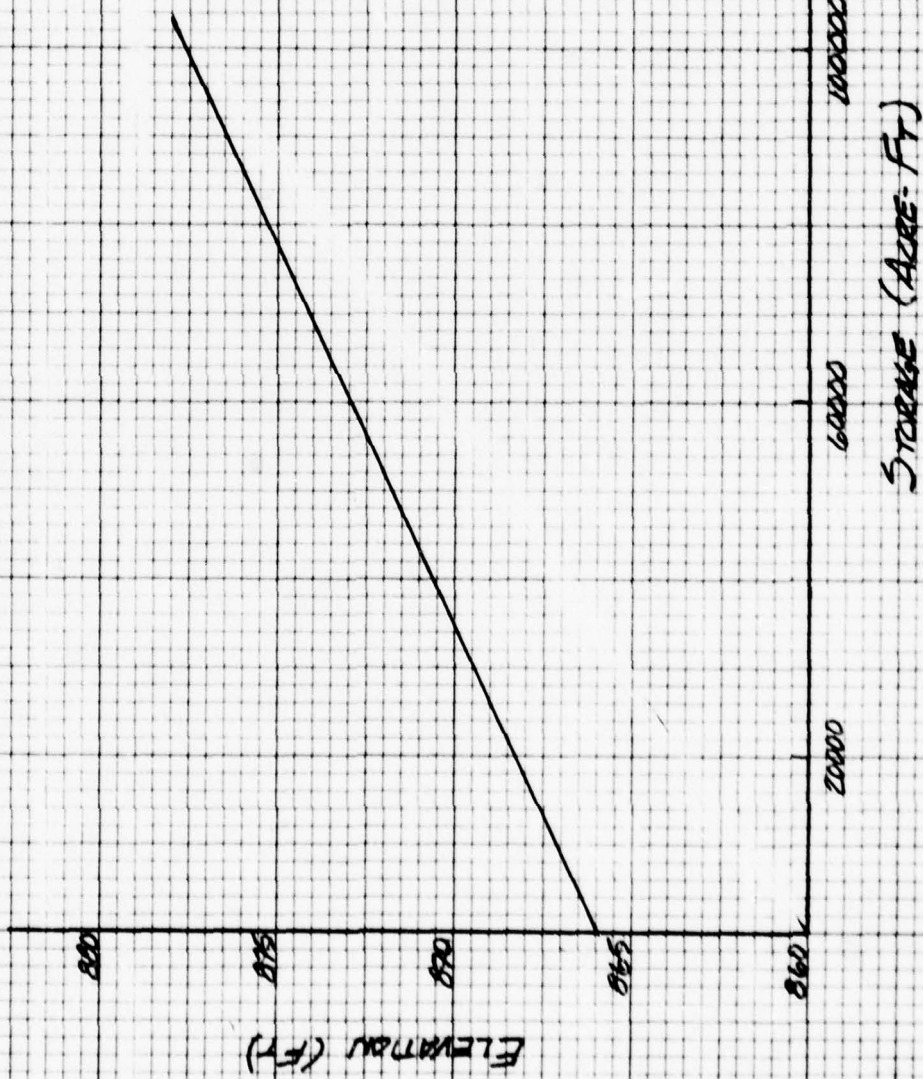
Therefore $T_c = R$

**STETSON • DALE**BANKERS TRUST BUILDING
UTICA • NEW YORK • 13501
TEL 315-797-5800**DESIGN BRIEF**PROJECT NAME NY DAM INSPECTIONDATE 9.19.78SUBJECT SKANEATELES LAKEPROJECT NO. 2210DRAWN BY JPGHYDROMETEOROLOGICAL REPORT NO 33PMP INDEX RAINFALL
24 HR, 200 MI² - 21.1"

| <u>DURATION</u> | <u>%</u> | <u>DEPTH</u> |
|-----------------|----------|--------------|
| 6 Hr | 80 | 16.83" |
| 12 Hr | 94 | 19.83" |
| 24 Hr | 106 | 22.37" |
| 48 Hr | 110 | 23.21" |

SKANJEATELES LAKE DAM

STAGE STORAGE



**STETSON • DALE**BANKERS TRUST BUILDING
UTICA • NEW YORK • 13501
TEL 315-797-5800**DESIGN BRIEF**

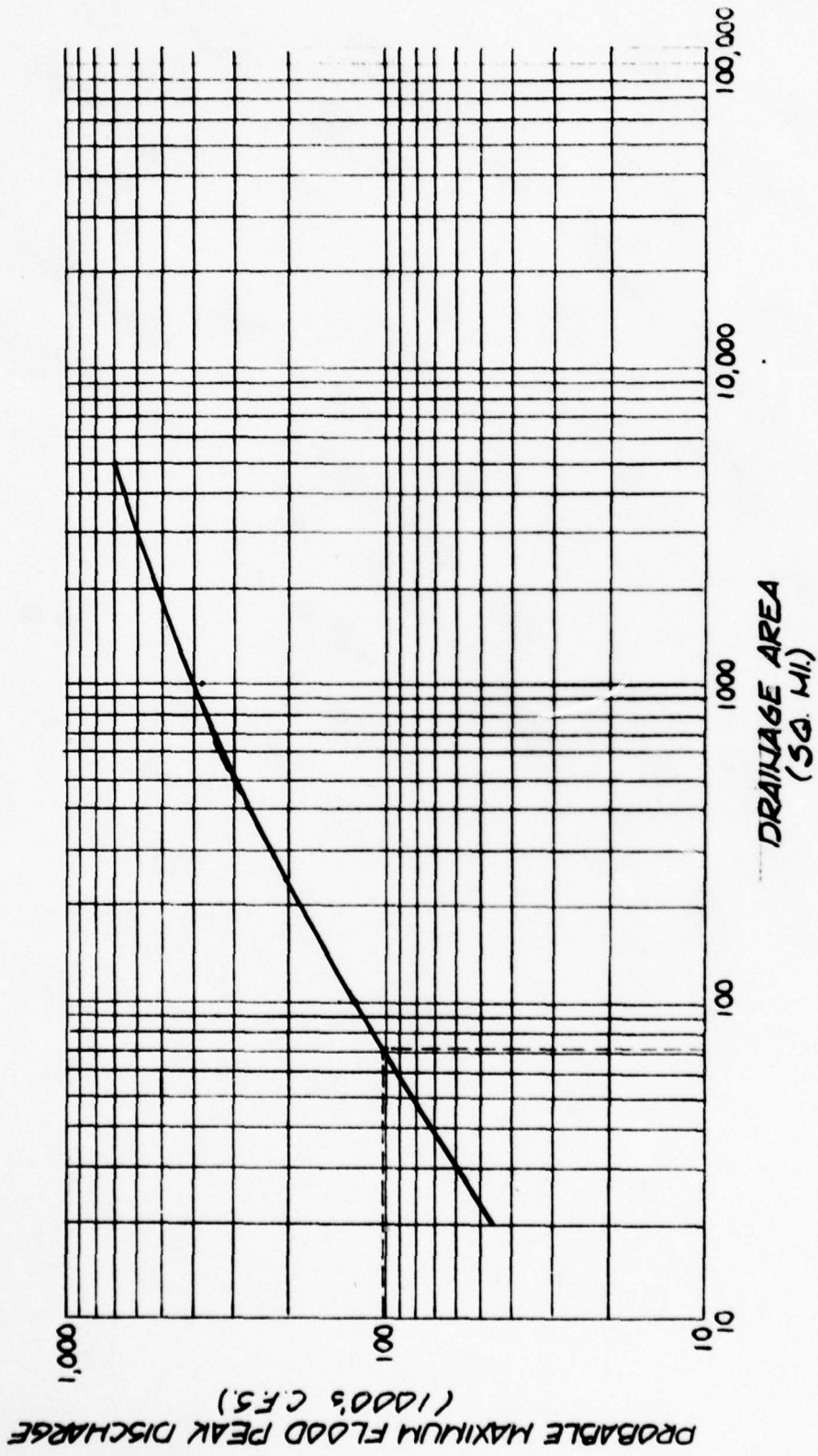
PROJECT NAME

NY DAM INSPECTIONDATE 9-15-78

SUBJECT

SKANEATELES LAKE DAMPROJECT NO. 2210DRAWN BY JPGSTAGE-DISCHARGE TABULATION (FROM CREST OF SPILLWAY)

| <u>ELEV</u> | <u>PRINCIPAL ^Q SPILLWAY</u> | <u>^Q DAM</u> | <u>^Q TOTAL</u> |
|--------------------|--|-------------------------|---------------------------|
| 866 | — | — | — |
| 867 | 124.80 | — | 124.80 |
| 868 | 352.99 | — | 352.99 |
| 868.5 (TOP OF DAM) | 493.32 | — | 493.32 |
| 869 | 648.48 | 98.11 | 746.59 |
| 870 | 998.40 | 509.80 | 1508.20 |
| 871 | 1395.31 | 1096.92 | 2492.23 |
| 872 | 1834.18 | 1817.04 | 3651.22 |
| 873 | 2311.33 | 2649.00 | 4960.33 |
| 874 | 2823.90 | 3579.37 | 6403.27 |
| 875 | 3369.60 | 4598.68 | 7968.28 |
| 876 | 3946.52 | 5699.74 | 9646.26 |
| 877 | 4553.06 | 6876.88 | 11429.94 |
| 878 | 5187.84 | 8125.47 | 13313.31 |
| 879 | 5849.65 | 9491.63 | 15291.28 |
| 880 | 6537.42 | 10822.06 | 17359.48 |



ESTIMATE OF PROBABLE MAXIMUM FLOOD USING
NUCLEAR REGULATORY COMMISSION CURVES



DATE 9-15-78
JOB 2210

DRAWN JPB
APP'D

C-6

00100 A SKANEATELES LAKE DAM
 0110 A RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
 0120 A 39 FOOT SPILLWAY
 0130 B 90 1
 0140 I 5
 0150 J 1 9 1
 0160 I .1 .2 .3 .4 .5 .6 .7 .8 1.0
 0170 K 0 1
 0180 M 1 0 72.3 0 72.3 1
 0190 P 0 21.1 80 94 106 110
 00200 T 1.0 0.1
 0210 V 8.5 8.5
 0220 X 150 150 1
 0230 K 1 1
 0240 Y 1 1
 0250 I 1 1
 0260 2 17328 34756 52184 69512 121696 226064 260820 -1
 0270 3 0 713 1107 1868 6763 13673 17715
 0280 K 99
 0290 A
 0300 A
 00310 A
 0320 A
 0330 A

00100 A SKANEATELES LAKE DAM
 0110 A RESERVOIR ROUTING OF P.M.F. - SNYDER
 0120 A 39 FOOT SPILLWAY
 0130 B 150 1
 0140 I 5
 0150 J 1 9 1
 0160 I .1 .2 .3 .4 .5 .6 .7 .8
 0170 K 0 1
 0180 M 1 1 72.3 0 72.3
 0190 P 0 21.1 80 94 106 110
 0200 T 1.0 0.1
 0210 W 9.854 0.625
 0220 X 150 150 1
 0230 K 1 1
 0240 Y 1 1
 0250 I 1 1
 0260 2 0 17328 34756 52184 104368 208736 243492 -1
 0270 3 0 353 747 1508 6403 13313 17359
 0280 K 99
 0290 A
 0300 A
 0310 A
 0320 A
 0330 A

```

--
00100 A  SKANEATELES LAKE DAM
0110 A  RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
0120 A  39 FOOT SPILLWAY
0130 B  90      1
0140 I  5
0150 J  1      9      1
0160 I  .1      .2      .3      .4      .5      .6      .7      .8      1.0
0170 K  0      1
0180 M  1      0      72.3      0      72.3
0190 P  0      21.1      80      94      106      110
00200 T
0210 V  8.5      8.5
0220 X  150      150      1
0230 K  1      1
0240 Y
0250 I  1
0260 Z  0      17328      34756      52184      104368      208736      243492
0270 3  0      713      1107      1868      6763      13673      17715
0280 K  99
0290 A
0300 A
00310 A
0320 A
0330 A

```

 EC-1 VERSION DATED JAN 1973
 PDATED AUG 74
 CHANGE NO. 01

SKAMEATELES LAKE DAM
 RESERVOIR ROUTING OF P.H.F. - CLARK METHOD
 39 FOOT SPILLWAY

JOB SPECIFICATION
 NO NHR NMN IDAY IHR ININ METRC IPLT IPRT NSTAN
 90 1 0 0 0 0 0 0 0 0
 JOPER NWT
 5 0

MULTI-PLAN ANALYSES TO BE PERFORMED
 NPLAN# 1 NRTIO# 9 LRTIO# 1
 RTIOS# 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00

SUB-AREA RUNOFF COMPUTATION
 ISTAQ ICOMP IECON ITAPE JPLT JPRT INAME
 1 0 0 0 0 0 0

HYDROGRAPH DATA
 INYDC IUHC TAREA SNAP TRSDA TRSPC RATIO ISNOW ISAME LOCAL
 1 0 72.30 0.0 72.30 0.0 0.0 0 1 0

PRECIP DATA
 SPFE PMS R6 R12 R24 R48 R72 R96
 0.0 21.10 80.00 94.00 106.00 110.00 0.0 0.0

RSPC COMPUTED BY THE PROGRAM IS 0.859

LOSS DATA
 STRKR DLTKR RTIOL ERAIN STRKS RTIOK STRTL CNSTL ALSMX RTIMP
 0.0 0.0 1.00 0.0 0.0 1.00 1.00 0.10 0.0 0.0

UNIT HYDROGRAPH DATA

RECESSION DATA

STRTO# 150.00 QRCSE# 150.00 RTIOR# 1.00

UNIT HYDROGRAPH 50 END-OF-PERIOD ORDINATES, LAG# 7.74 HOURS, CP# 0.57 VOL# 1.00

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 148. | 550. | 1109. | 1750. | 2410. | 2966. | 3333. | 3495. | 3378. | 3055. |
| 2716. | 2414. | 2146. | 1907. | 1695. | 1507. | 1339. | 1191. | 1058. | 941. |
| 836. | 743. | 661. | 587. | 522. | 464. | 412. | 367. | 326. | 290. |
| 258. | 229. | 203. | 181. | 161. | 143. | 127. | 113. | 100. | 89. |
| 79. | 70. | 63. | 56. | 50. | 44. | 39. | 35. | 31. | 27. |

END-OF-PERIOD FLOW

| TIME | RAIN | EXCS | COMP Q |
|------|------|------|--------|
| 1 | 0.01 | 0.00 | 150. |
| 2 | 0.01 | 0.00 | 150. |
| 3 | 0.01 | 0.00 | 150. |
| 4 | 0.01 | 0.00 | 150. |
| 5 | 0.01 | 0.00 | 150. |
| 6 | 0.01 | 0.00 | 150. |
| 7 | 0.02 | 0.00 | 150. |
| 8 | 0.02 | 0.00 | 150. |
| 9 | 0.02 | 0.00 | 150. |
| 10 | 0.02 | 0.00 | 150. |
| 11 | 0.02 | 0.00 | 150. |
| 12 | 0.02 | 0.00 | 150. |
| 13 | 0.05 | 0.00 | 150. |
| 14 | 0.07 | 0.00 | 150. |
| 15 | 0.08 | 0.00 | 150. |
| 16 | 0.21 | 0.00 | 150. |
| 17 | 0.08 | 0.00 | 150. |
| 18 | 0.06 | 0.00 | 150. |
| 19 | 0.01 | 0.00 | 150. |
| 20 | 0.01 | 0.00 | 150. |
| 21 | 0.01 | 0.00 | 150. |
| 22 | 0.01 | 0.00 | 150. |
| 23 | 0.01 | 0.00 | 150. |
| 24 | 0.01 | 0.00 | 150. |
| 25 | 0.15 | 0.00 | 150. |
| 26 | 0.15 | 0.00 | 151. |
| 27 | 0.15 | 0.05 | 159. |
| 28 | 0.15 | 0.05 | 187. |
| 29 | 0.15 | 0.05 | 240. |
| 30 | 0.15 | 0.05 | 321. |
| 31 | 0.42 | 0.32 | 474. |
| 32 | 0.42 | 0.32 | 762. |
| 33 | 0.42 | 0.32 | 1221. |
| 34 | 0.42 | 0.32 | 1864. |
| 35 | 0.42 | 0.32 | 2684. |
| 36 | 0.42 | 0.32 | 3645. |
| 37 | 1.45 | 1.35 | 4844. |
| 38 | 1.74 | 1.64 | 6530. |
| 39 | 2.18 | 2.08 | 8927. |
| 40 | 5.51 | 5.41 | 12713. |
| 41 | 2.03 | 1.93 | 18328. |
| 42 | 1.60 | 1.50 | 25294. |
| 43 | 0.22 | 0.12 | 32819. |
| 44 | 0.22 | 0.12 | 39956. |
| 45 | 0.22 | 0.12 | 45623. |
| 46 | 0.22 | 0.12 | 49056. |
| 47 | 0.22 | 0.12 | 50056. |
| 48 | 0.22 | 0.12 | 48584. |
| 49 | 0.0 | 0.0 | 45296. |
| 50 | 0.0 | 0.0 | 41291. |
| 51 | 0.0 | 0.0 | 37262. |
| 52 | 0.0 | 0.0 | 33518. |

| | | | |
|----|-----|-----|--------|
| 54 | 0.0 | 0.0 | 26945. |
| 55 | 0.0 | 0.0 | 24069. |
| 56 | 0.0 | 0.0 | 21449. |
| 57 | 0.0 | 0.0 | 19089. |
| 58 | 0.0 | 0.0 | 16984. |
| 59 | 0.0 | 0.0 | 15114. |
| 60 | 0.0 | 0.0 | 13451. |
| 61 | 0.0 | 0.0 | 11973. |
| 62 | 0.0 | 0.0 | 10660. |
| 63 | 0.0 | 0.0 | 9492. |
| 64 | 0.0 | 0.0 | 8454. |
| 65 | 0.0 | 0.0 | 7531. |
| 66 | 0.0 | 0.0 | 6711. |
| 67 | 0.0 | 0.0 | 5982. |
| 68 | 0.0 | 0.0 | 5334. |
| 69 | 0.0 | 0.0 | 4758. |
| 70 | 0.0 | 0.0 | 4246. |
| 71 | 0.0 | 0.0 | 3791. |
| 72 | 0.0 | 0.0 | 3386. |
| 73 | 0.0 | 0.0 | 3027. |
| 74 | 0.0 | 0.0 | 2707. |
| 75 | 0.0 | 0.0 | 2423. |
| 76 | 0.0 | 0.0 | 2170. |
| 77 | 0.0 | 0.0 | 1945. |
| 78 | 0.0 | 0.0 | 1744. |
| 79 | 0.0 | 0.0 | 1566. |
| 80 | 0.0 | 0.0 | 1408. |
| 81 | 0.0 | 0.0 | 1260. |
| 82 | 0.0 | 0.0 | 1129. |
| 83 | 0.0 | 0.0 | 1012. |
| 84 | 0.0 | 0.0 | 908. |
| 85 | 0.0 | 0.0 | 816. |
| 86 | 0.0 | 0.0 | 734. |
| 87 | 0.0 | 0.0 | 636. |
| 88 | 0.0 | 0.0 | 542. |
| 89 | 0.0 | 0.0 | 448. |
| 90 | 0.0 | 0.0 | 283. |

SUM 20.04 16.75 789821.

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 50056. | 46651. | 28296. | 10932. | 789821. |
| INCHES | | 6.00 | 14.56 | 16.88 | 16.94 |
| AC-FT | | 23145. | 56154. | 65085. | 65308. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 16. | 19. | 24. | 32. |
| 47. | 76. | 122. | 186. | 268. | 364. | 484. | 653. | 893. | 1271. |
| 1833. | 2529. | 3282. | 3996. | 4562. | 4906. | 5006. | 4858. | 4530. | 4129. |
| 3726. | 3352. | 3009. | 2695. | 2407. | 2145. | 1909. | 1698. | 1511. | 1345. |
| 1197. | 1066. | 949. | 845. | 753. | 671. | 598. | 533. | 476. | 425. |
| 379. | 339. | 303. | 271. | 242. | 217. | 194. | 174. | 157. | 141. |
| 126. | 113. | 101. | 91. | 82. | 73. | 64. | 54. | 45. | 28. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 5006. | 4665. | 2830. | 1093. | 78981. |
| INCHES | | 0.60 | 1.46 | 1.69 | 1.69 |
| AC-FT | | 2314. | 5615. | 6508. | 6531. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 32. | 37. | 48. | 64. |

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 3000. | 3000. | 6000. | 7000. | 7000. | 7000. | 10000. | 7000. | 7000. | 6000. |
| 7452. | 6704. | 6018. | 5389. | 4814. | 4290. | 3818. | 3397. | 3023. | 2690. |
| 2395. | 2132. | 1898. | 1691. | 1506. | 1342. | 1196. | 1067. | 952. | 849. |
| 758. | 677. | 605. | 541. | 485. | 434. | 389. | 349. | 313. | 282. |
| 252. | 226. | 202. | 182. | 163. | 147. | 127. | 108. | 90. | 57. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 10011. | 9330. | 5659. | 2186. | 157963. |
| INCHES | | 1.20 | 2.91 | 3.38 | 3.39 |
| AC-FT | | 4629. | 11231. | 13017. | 13062. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 3

| | | | | | | | | | |
|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 48. | 56. | 72. | 96. |
| 142. | 228. | 366. | 559. | 805. | 1093. | 1453. | 1959. | 2678. | 3814. |
| 5498. | 7588. | 9846. | 11987. | 13687. | 14717. | 15017. | 14575. | 13589. | 12387. |
| 11178. | 10055. | 9027. | 8084. | 7221. | 6435. | 5727. | 5095. | 4534. | 4035. |
| 3592. | 3198. | 2848. | 2536. | 2259. | 2013. | 1795. | 1600. | 1427. | 1274. |
| 1137. | 1016. | 908. | 812. | 727. | 651. | 583. | 523. | 470. | 422. |
| 378. | 339. | 304. | 273. | 245. | 220. | 191. | 163. | 134. | 85. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 15017. | 13995. | 8489. | 3280. | 236945. |
| INCHES | | 1.80 | 4.37 | 5.06 | 5.08 |
| AC-FT | | 6943. | 16846. | 19525. | 19592. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 4

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 64. | 75. | 96. | 129. |
| 189. | 305. | 488. | 746. | 1074. | 1458. | 1938. | 2612. | 3571. | 5085. |
| 7331. | 10118. | 13127. | 15983. | 18249. | 19622. | 20022. | 19434. | 18118. | 16516. |
| 14905. | 13407. | 12036. | 10778. | 9627. | 8580. | 7635. | 6794. | 6046. | 5380. |
| 4789. | 4264. | 3797. | 3382. | 3012. | 2684. | 2393. | 2134. | 1903. | 1698. |
| 1516. | 1355. | 1211. | 1083. | 969. | 868. | 778. | 698. | 626. | 563. |
| 504. | 451. | 405. | 363. | 327. | 294. | 255. | 217. | 179. | 113. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 20022. | 18660. | 11318. | 4373. | 315927. |
| INCHES | | 2.40 | 5.83 | 6.75 | 6.77 |
| AC-FT | | 9258. | 22461. | 26034. | 26123. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 5

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 80. | 93. | 120. | 161. |
| 237. | 381. | 610. | 932. | 1342. | 1822. | 2422. | 3265. | 4464. | 6357. |
| 9164. | 12647. | 16409. | 19978. | 22812. | 24528. | 25028. | 24292. | 22648. | 20646. |
| 18631. | 16759. | 15045. | 13473. | 12034. | 10725. | 9544. | 8492. | 7557. | 6726. |
| 5987. | 5330. | 4746. | 4227. | 3766. | 3356. | 2991. | 2667. | 2379. | 2123. |
| 1895. | 1693. | 1513. | 1354. | 1212. | 1085. | 972. | 872. | 783. | 704. |
| 630. | 564. | 506. | 454. | 408. | 367. | 318. | 271. | 224. | 141. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 25028. | 23325. | 14148. | 5466. | 394909. |
| INCHES | | 3.00 | 7.28 | 8.44 | 8.47 |
| AC-FT | | 11572. | 28077. | 32542. | 32654. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 6

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 96. | 112. | 144. | 193. |
| 284. | 457. | 732. | 1118. | 1611. | 2187. | 2906. | 3918. | 5356. | 7628. |
| 10997. | 15177. | 19691. | 23974. | 27374. | 29433. | 30034. | 29150. | 27178. | 24775. |

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 7184. | 6396. | 5695. | 5072. | 4519. | 4027. | 3589. | 3200. | 2855. | 2548. |
| 2275. | 2032. | 1816. | 1624. | 1454. | 1302. | 1167. | 1047. | 940. | 845. |
| 756. | 677. | 607. | 545. | 490. | 441. | 382. | 325. | 269. | 170. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 30034. | 27991. | 16978. | 6559. | 473891. |
| INCHES | | 3.60 | 8.74 | 10.13 | 10.16 |
| AC-FT | | 13887. | 33692. | 39051. | 39185. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 7

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 111. | 131. | 168. | 225. |
| 332. | 533. | 854. | 1305. | 1879. | 2551. | 3391. | 4571. | 6249. | 8899. |
| 12829. | 17706. | 22973. | 27969. | 31936. | 34339. | 35039. | 34009. | 31707. | 28904. |
| 26083. | 23462. | 21063. | 18862. | 16848. | 15014. | 13362. | 11889. | 10580. | 9416. |
| 8381. | 7462. | 6644. | 5918. | 5272. | 4698. | 4187. | 3734. | 3331. | 2972. |
| 2654. | 2370. | 2119. | 1895. | 1696. | 1519. | 1361. | 1221. | 1096. | 985. |
| 882. | 790. | 708. | 636. | 571. | 514. | 446. | 380. | 314. | 198. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 35039. | 32656. | 19807. | 7653. | 552873. |
| INCHES | | 4.20 | 10.19 | 11.82 | 11.86 |
| AC-FT | | 16201. | 39308. | 45559. | 45716. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 8

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 121. | 127. | 149. | 192. | 257. |
| 379. | 609. | 977. | 1491. | 2148. | 2916. | 3875. | 5224. | 7142. | 10170. |
| 14662. | 20236. | 26255. | 31965. | 36498. | 39245. | 40045. | 38867. | 36237. | 33033. |
| 29809. | 26814. | 24071. | 21556. | 19255. | 17159. | 15271. | 13587. | 12091. | 10761. |
| 9579. | 8528. | 7593. | 6763. | 6025. | 5369. | 4786. | 4267. | 3806. | 3397. |
| 3033. | 2709. | 2421. | 2166. | 1938. | 1736. | 1556. | 1395. | 1253. | 1126. |
| 1000. | 903. | 810. | 727. | 653. | 587. | 509. | 434. | 358. | 226. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 40045. | 37321. | 22637. | 8746. | 631854. |
| INCHES | | 4.80 | 11.65 | 13.50 | 13.55 |
| AC-FT | | 18516. | 44923. | 52068. | 52246. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 9

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 151. | 159. | 187. | 240. | 321. |
| 474. | 762. | 1221. | 1864. | 2684. | 3645. | 4844. | 6530. | 8927. | 12713. |
| 18328. | 25294. | 32818. | 39956. | 45623. | 49056. | 50056. | 48584. | 45296. | 41291. |
| 37261. | 33518. | 30089. | 26945. | 24069. | 21449. | 19089. | 16984. | 15114. | 13451. |
| 11973. | 10660. | 9492. | 8454. | 7531. | 6711. | 5982. | 5334. | 4758. | 4246. |
| 3791. | 3386. | 3027. | 2707. | 2423. | 2170. | 1945. | 1744. | 1566. | 1408. |
| 1260. | 1129. | 1012. | 908. | 816. | 734. | 636. | 542. | 448. | 283. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 50056. | 46651. | 28296. | 10932. | 789818. |
| INCHES | | 6.00 | 14.56 | 16.88 | 16.94 |
| AC-FT | | 23145. | 56154. | 65085. | 65308. |

HYDROGRAPH ROUTING

| | | | | | | |
|-------|-------|-------|-------|------|------|-------|
| ISTAQ | ICOMP | IECON | ITAPE | JPLT | JPRT | INAME |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 |

ROUTING DATA

0.0 0.0 0.0 1 1
 NSTPS NSTDL LAG ANSKK X TSK STORA
 1 0 0 0.0 0.0 0.0 -1.

STORAGE# 0. 17328. 34756. 52184. 104368. 208736. 243492. 0. 0. 0.
 OUTFLOW# 0. 713. 1107. 1868. 6763. 13673. 17715. 0. 0. 0.

STATION 1, PLAN 1, RTIO 1
 15. 15. 15. 15. 15. 15. 15. 15. 15. 15.
 15. 15. 15. 15. 15. 15. 15. 15. 15. 15.
 15. 15. 15. 15. 15. 15. 15. 15. 15. 15.
 15. 15. 16. 16. 17. 18. 19. 21. 24. 27.
 32. 40. 49. 62. 76. 92. 108. 125. 140. 154.
 167. 179. 189. 198. 206. 213. 219. 224. 229. 233.
 237. 240. 242. 245. 246. 248. 249. 250. 251. 252.
 252. 253. 253. 253. 253. 253. 253. 253. 252. 252.
 252. 251. 251. 250. 250. 249. 248. 248. 247. 246.

STOR
 365. 365. 365. 365. 365. 365. 365. 365. 365. 365.
 365. 365. 365. 365. 365. 365. 365. 365. 365. 365.
 365. 365. 365. 365. 365. 365. 365. 365. 365. 366.
 368. 372. 379. 391. 408. 433. 466. 512. 574. 661.
 787. 964. 1201. 1497. 1845. 2229. 2630. 3028. 3405. 3751.
 4062. 4340. 4588. 4808. 5002. 5173. 5322. 5453. 5567. 5666.
 5751. 5825. 5889. 5943. 5988. 6027. 6059. 6085. 6106. 6122.
 6135. 6143. 6149. 6152. 6152. 6150. 6146. 6141. 6133. 6125.
 6115. 6104. 6092. 6079. 6066. 6052. 6037. 6021. 6005. 5987.

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME
 CFS 253. 253. 251. 150. 11052.
 INCHES 0.03 0.13 0.23 0.24
 AC-FT 126. 498. 892. 914.

STATION 1, PLAN 1, RTIO 2
 30. 30. 30. 30. 30. 30. 30. 30. 30. 30.
 30. 30. 30. 30. 30. 30. 30. 30. 30. 30.
 30. 30. 30. 30. 30. 30. 30. 30. 30. 30.
 30. 31. 31. 32. 34. 36. 38. 42. 47. 54.
 65. 79. 99. 123. 152. 183. 216. 249. 280. 309.
 334. 357. 378. 396. 412. 426. 438. 449. 458. 466.
 473. 479. 485. 489. 493. 496. 499. 501. 502. 504.
 505. 506. 506. 506. 506. 506. 506. 505. 505. 504.
 503. 502. 501. 500. 499. 498. 497. 496. 494. 493.

STOR
 729. 729. 729. 729. 729. 729. 729. 729. 729. 729.
 729. 729. 729. 729. 729. 729. 729. 729. 729. 729.
 729. 729. 729. 729. 729. 729. 729. 730. 731. 733.
 737. 744. 758. 781. 816. 866. 933. 1023. 1147. 1322.
 1574. 1928. 2401. 2993. 3689. 4458. 5260. 6056. 6810. 7502.
 8124. 8681. 9176. 9615. 10004. 10345. 10645. 10906. 11134. 11332.
 11503. 11651. 11777. 11885. 11977. 12054. 12118. 12170. 12212. 12245.
 12269. 12287. 12290. 12304. 12304. 12300. 12292. 12281. 12267. 12250.
 12230. 12208. 12185. 12159. 12132. 12104. 12074. 12042. 12010. 11975.

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME
 CFS 506. 506. 502. 300. 22104.
 INCHES 0.07 0.26 0.46 0.47
 AC-FT 251. 996. 1783. 1828.

STATION 1, PLAN 1, RTIO 3
 45. 45. 45. 45. 45. 45. 45. 45. 45. 45.
 45. 45. 45. 45. 45. 45. 45. 45. 45. 45.
 -- -- -- -- -- -- -- -- -- --

C-14

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 45. | 46. | 47. | 48. | 50. | 53. | 58. | 63. | 71. | 82. |
| 97. | 119. | 148. | 185. | 228. | 275. | 325. | 374. | 420. | 463. |
| 501. | 536. | 566. | 593. | 617. | 639. | 657. | 673. | 687. | 699. |
| 710. | 716. | 721. | 724. | 727. | 730. | 732. | 734. | 736. | 737. |
| 738. | 738. | 739. | 739. | 739. | 739. | 739. | 738. | 738. | 737. |
| 737. | 736. | 735. | 734. | 733. | 732. | 731. | 730. | 729. | 728. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. |
| 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. |
| 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1094. | 1096. | 1099. |
| 1105. | 1117. | 1137. | 1172. | 1224. | 1298. | 1399. | 1535. | 1721. | 1983. |
| 2360. | 2892. | 3602. | 4490. | 5534. | 6687. | 7891. | 9085. | 10216. | 11252. |
| 12186. | 13021. | 13764. | 14423. | 15005. | 15518. | 15967. | 16359. | 16701. | 16998. |
| 17254. | 17476. | 17666. | 17829. | 17967. | 18084. | 18181. | 18260. | 18325. | 18375. |
| 18414. | 18442. | 18461. | 18471. | 18473. | 18469. | 18459. | 18444. | 18424. | 18400. |
| 18372. | 18341. | 18306. | 18269. | 18230. | 18189. | 18145. | 18100. | 18051. | 18000. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 739. | 739. | 735. | 443. | 32694. |
| INCHES | | 0.10 | 0.38 | 0.68 | 0.70 |
| AC-FT | | 366. | 1459. | 2636. | 2703. |

STATION 1, PLAN 1, RTIO 4

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 61. | 61. | 62. | 64. | 67. | 71. | 77. | 84. | 94. | 109. |
| 129. | 159. | 198. | 246. | 304. | 367. | 433. | 498. | 560. | 617. |
| 669. | 714. | 736. | 756. | 774. | 789. | 803. | 815. | 825. | 834. |
| 842. | 849. | 855. | 860. | 865. | 868. | 872. | 874. | 876. | 878. |
| 879. | 880. | 881. | 882. | 882. | 882. | 882. | 882. | 881. | 881. |
| 880. | 879. | 878. | 877. | 876. | 875. | 874. | 873. | 872. | 870. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. |
| 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. |
| 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1458. | 1459. | 1461. | 1465. |
| 1474. | 1489. | 1517. | 1562. | 1632. | 1731. | 1865. | 2047. | 2295. | 2644. |
| 3147. | 3856. | 4802. | 5987. | 7378. | 8916. | 10521. | 12113. | 13621. | 15003. |
| 16249. | 17361. | 18353. | 19234. | 20014. | 20702. | 21306. | 21835. | 22298. | 22702. |
| 23052. | 23357. | 23619. | 23845. | 24038. | 24202. | 24340. | 24455. | 24549. | 24625. |
| 24686. | 24731. | 24765. | 24787. | 24799. | 24802. | 24797. | 24785. | 24767. | 24743. |
| 24714. | 24681. | 24644. | 24603. | 24559. | 24512. | 24463. | 24410. | 24354. | 24294. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 882. | 882. | 878. | 540. | 39987. |
| INCHES | | 0.11 | 0.45 | 0.83 | 0.86 |
| AC-FT | | 437. | 1742. | 3217. | 3306. |

STATION 1, PLAN 1, RTIO 5

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 76. | 77. | 78. | 80. | 84. | 89. | 96. | 105. | 118. | 136. |
| 162. | 198. | 247. | 308. | 380. | 459. | 541. | 623. | 701. | 745. |
| 781. | 812. | 840. | 865. | 888. | 907. | 924. | 939. | 953. | 964. |
| 974. | 983. | 991. | 997. | 1003. | 1007. | 1012. | 1015. | 1018. | 1020. |
| 1022. | 1023. | 1024. | 1025. | 1026. | 1026. | 1026. | 1026. | 1025. | 1025. |
| 1024. | 1023. | 1022. | 1021. | 1020. | 1019. | 1018. | 1017. | 1015. | 1014. |

STOR

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. |
| 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. |
| 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1823. | 1824. | 1826. | 1832. |

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3934. | 4820. | 6003. | 7483. | 9223. | 11145. | 13151. | 15141. | 17026. | 18735. |
| 20315. | 21712. | 22958. | 24066. | 25047. | 25913. | 26675. | 27344. | 27929. | 28440. |
| 28885. | 29271. | 29606. | 29895. | 30142. | 30354. | 30532. | 30683. | 30807. | 30909. |
| 30991. | 31054. | 31102. | 31136. | 31157. | 31167. | 31168. | 31159. | 31143. | 31119. |
| 31090. | 31055. | 31014. | 30970. | 30921. | 30869. | 30813. | 30753. | 30689. | 30621. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 1026. | 1026. | 1021. | 632. | 46887. |
| INCHES | | 0.13 | 0.53 | 0.98 | 1.01 |
| AC-FT | | 509. | 2026. | 3765. | 3877. |

| STATION 1, PLAN 1, RTIO 6 | | | | | | | | | |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 91. | 92. | 94. | 96. | 101. | 107. | 115. | 126. | 142. | 163. |
| 194. | 238. | 296. | 370. | 455. | 550. | 649. | 732. | 783. | 830. |
| 873. | 911. | 945. | 975. | 1002. | 1025. | 1046. | 1064. | 1080. | 1094. |
| 1106. | 1126. | 1144. | 1159. | 1172. | 1184. | 1193. | 1201. | 1207. | 1213. |
| 1217. | 1221. | 1223. | 1225. | 1226. | 1227. | 1227. | 1226. | 1225. | 1224. |
| 1223. | 1221. | 1219. | 1216. | 1214. | 1211. | 1208. | 1205. | 1202. | 1198. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. |
| 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2187. |
| 2187. | 2187. | 2187. | 2187. | 2187. | 2187. | 2188. | 2189. | 2192. | 2198. |
| 2210. | 2233. | 2275. | 2344. | 2448. | 2597. | 2798. | 3070. | 3442. | 3966. |
| 4721. | 5784. | 7203. | 8980. | 11068. | 13374. | 15781. | 18170. | 20435. | 22515. |
| 24392. | 26073. | 27574. | 28908. | 30092. | 31136. | 32056. | 32863. | 33570. | 34189. |
| 34728. | 35197. | 35603. | 35952. | 36252. | 36508. | 36725. | 36906. | 37057. | 37180. |
| 37279. | 37356. | 37414. | 37455. | 37481. | 37494. | 37494. | 37485. | 37465. | 37438. |
| 37403. | 37361. | 37313. | 37260. | 37203. | 37141. | 37075. | 37004. | 36929. | 36848. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 1227. | 1226. | 1215. | 741. | 55003. |
| INCHES | | 0.16 | 0.63 | 1.14 | 1.18 |
| AC-FT | | 600. | 2412. | 4414. | 4548. |

| STATION 1, PLAN 1, RTIO 7 | | | | | | | | | |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 106. |
| 106. | 107. | 109. | 113. | 118. | 125. | 134. | 147. | 165. | 190. |
| 227. | 278. | 346. | 431. | 531. | 642. | 738. | 801. | 860. | 915. |
| 965. | 1009. | 1049. | 1084. | 1124. | 1177. | 1224. | 1265. | 1301. | 1332. |
| 1360. | 1383. | 1404. | 1421. | 1436. | 1449. | 1460. | 1469. | 1476. | 1482. |
| 1487. | 1491. | 1493. | 1495. | 1496. | 1497. | 1497. | 1496. | 1495. | 1493. |
| 1491. | 1489. | 1486. | 1483. | 1480. | 1477. | 1473. | 1469. | 1465. | 1461. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. |
| 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. |
| 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2552. | 2553. | 2557. | 2565. |
| 2579. | 2606. | 2654. | 2734. | 2856. | 3029. | 3264. | 3582. | 4016. | 4627. |
| 5508. | 6749. | 8404. | 10477. | 12912. | 15602. | 18412. | 21202. | 23849. | 26280. |
| 28475. | 30440. | 32195. | 33757. | 35141. | 36363. | 37436. | 38377. | 39199. | 39916. |
| 40541. | 41082. | 41550. | 41952. | 42296. | 42589. | 42836. | 43042. | 43212. | 43351. |
| 43460. | 43545. | 43607. | 43649. | 43674. | 43683. | 43679. | 43662. | 43634. | 43597. |
| 43550. | 43496. | 43435. | 43368. | 43296. | 43218. | 43136. | 43049. | 42956. | 42856. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 1497. | 1496. | 1483. | 888. | 65818. |
| INCHES | | 0.19 | 0.76 | 1.37 | 1.41 |
| AC-FT | | 742. | 2944. | 5286. | 5442. |

| | | | STATION | | 1, PLAN 1, RTIO 8 | | | | |
|-------|-------|-------|---------|-------|-------------------|-------|-------|-------|-------|
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 121. |
| 121. | 123. | 125. | 129. | 134. | 142. | 153. | 168. | 189. | 218. |
| 259. | 317. | 395. | 493. | 607. | 724. | 797. | 869. | 938. | 1001. |
| 1057. | 1109. | 1197. | 1275. | 1344. | 1405. | 1458. | 1505. | 1545. | 1581. |
| 1612. | 1639. | 1662. | 1682. | 1699. | 1713. | 1725. | 1735. | 1744. | 1750. |
| 1756. | 1760. | 1763. | 1764. | 1766. | 1766. | 1765. | 1764. | 1763. | 1761. |
| 1758. | 1755. | 1752. | 1748. | 1745. | 1741. | 1736. | 1732. | 1727. | 1722. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. |
| 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2916. |
| 2916. | 2916. | 2916. | 2916. | 2916. | 2916. | 2917. | 2918. | 2922. | 2931. |
| 2947. | 2978. | 3033. | 3125. | 3264. | 3462. | 3730. | 4093. | 4589. | 5288. |
| 6294. | 7713. | 9604. | 11973. | 14757. | 17832. | 21045. | 24237. | 27266. | 30048. |
| 32560. | 34810. | 36818. | 38601. | 40179. | 41570. | 42792. | 43862. | 44797. | 45612. |
| 46321. | 46935. | 47465. | 47920. | 48308. | 48638. | 48916. | 49147. | 49337. | 49490. |
| 49611. | 49703. | 49769. | 49813. | 49837. | 49843. | 49833. | 49809. | 49772. | 49725. |
| 49668. | 49602. | 49528. | 49446. | 49359. | 49266. | 49168. | 49064. | 48953. | 48835. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 1766. | 1765. | 1750. | 1039. | 76983. |
| INCHES | | 0.23 | 0.90 | 1.60 | 1.65 |
| AC-FT | | 875. | 3473. | 6187. | 6365. |

| | | | STATION | | 1, PLAN 1, RTIO 9 | | | | |
|-------|-------|-------|---------|-------|-------------------|-------|-------|-------|-------|
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 151. |
| 152. | 153. | 156. | 161. | 168. | 178. | 192. | 211. | 236. | 272. |
| 324. | 397. | 494. | 616. | 738. | 825. | 916. | 1007. | 1092. | 1231. |
| 1368. | 1490. | 1600. | 1696. | 1782. | 1858. | 1988. | 2112. | 2220. | 2313. |
| 2393. | 2462. | 2521. | 2571. | 2613. | 2648. | 2676. | 2699. | 2717. | 2731. |
| 2741. | 2748. | 2751. | 2752. | 2751. | 2747. | 2742. | 2735. | 2726. | 2717. |
| 2706. | 2695. | 2682. | 2669. | 2655. | 2640. | 2625. | 2609. | 2593. | 2576. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. |
| 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3645. |
| 3645. | 3645. | 3645. | 3645. | 3645. | 3645. | 3646. | 3648. | 3653. | 3664. |
| 3684. | 3722. | 3792. | 3906. | 4080. | 4328. | 4663. | 5116. | 5737. | 6610. |
| 7868. | 9641. | 12005. | 14967. | 18447. | 22295. | 26318. | 30315. | 34107. | 37589. |
| 40728. | 43535. | 46035. | 48256. | 50220. | 51951. | 53467. | 54788. | 55935. | 56928. |
| 57705. | 58519. | 59146. | 59677. | 60123. | 60495. | 60799. | 61045. | 61238. | 61385. |
| 61491. | 61560. | 61598. | 61608. | 61592. | 61555. | 61498. | 61424. | 61335. | 61233. |
| 61120. | 60995. | 60861. | 60720. | 60571. | 60416. | 60255. | 60080. | 59914. | 59730. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 2752. | 2748. | 2699. | 1523. | 112336. |
| INCHES | | 0.35 | 1.39 | 2.35 | 2.41 |
| AC-FT | | 1363. | 5356. | 9065. | 9289. |

PEAK FLOW SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

| PERATION | STATION | PLAN | RATIOS APPLIED TO FLOWS | | | | | | | | |
|---------------|---------|------|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | 0.10 | 0.20 | 0.30 | 0.40 | 0.50 | 0.60 | 0.70 | 0.80 | 1.00 |
| HYDROGRAPH AT | 1 | 1 | 5006. | 10011. | 15017. | 20022. | 25028. | 30034. | 35039. | 40045. | 50056. |
| | | 2 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| ROUTED TO | 1 | 1 | 253. | 506. | 739. | 882. | 1026. | 1227. | 1497. | 1766. | 2752. |
| | | 2 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |

 EC-1 VERSION DATED JAN 1973
 PDATED AUG 74
 CHANGE NO. 01

SKANEATELES LAKE DAM
 RESERVOIR ROUTING OF P.M.F. - SNYDER
 39 FOOT SPILLWAY

| JOB SPECIFICATION | | | | | | | | | | |
|-------------------|-----|------|-------|-----|------|-------|------|------|-------|---|
| NO | NHR | NMIN | IDAY | IHR | IMIN | METRC | IPLT | IPRT | NSTAN | |
| 150 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | JOPER | | NWT | | | | | |
| | | | 5 | | 0 | | | | | |

MULTI-PLAN ANALYSES TO BE PERFORMED
 NPLAN# 1 NRTIO# 9 LRTIO# 1
 RTIOS# 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00

SUB-AREA RUNOFF COMPUTATION
 ISTAQ ICOMP IECON ITAPE JPLT JPRT INAME
 1 0 0 0 0 0 0

HYDROGRAPH DATA
 INYDC IUNG TAREA SNAP TRSDA TRSPC RATIO ISNOW ISAME LOCAL
 1 1 72.30 0.0 72.30 0.0 0.0 0 1 0

PRECIP DATA
 SPFE PMS R6 R12 R24 R48 R72 R96
 0.0 21.10 80.00 94.00 106.00 110.00 0.0 0.0

SPC COMPUTED BY THE PROGRAM IS 0.859

LOSS DATA
 STRKR DLTGR RTIOL ERAIN STRKS RTIOK STRTL CNSTL ALSMX RTIMP
 0.0 0.0 1.00 0.0 0.0 1.00 1.00 0.10 0.0 0.0

UNIT HYDROGRAPH DATA
 TP# 9.85 CP#0.63 NTA# 0

RECESSION DATA
 STRTQ# 150.00 QRCST# 150.00 RTIOR# 1.00
 ROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC#10.94 AND R# 9.17 INTERVALS

UNIT HYDROGRAPH 55 END-OF-PERIOD ORDINATES, LAG# 9.86 HOURS, CP# 0.63 VOL# 1.00

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 94. | 351. | 710. | 1123. | 1571. | 2031. | 2441. | 2748. | 2947. | 3031. |
| 2973. | 2752. | 2468. | 2212. | 1984. | 1778. | 1595. | 1430. | 1282. | 1149. |
| 1030. | 924. | 828. | 743. | 666. | 597. | 535. | 480. | 430. | 386. |
| 346. | 310. | 278. | 249. | 223. | 200. | 180. | 161. | 144. | 129. |
| 116. | 104. | 93. | 84. | 75. | 67. | 60. | 54. | 48. | 43. |
| 39. | 35. | 31. | 28. | 25. | | | | | |

END-OF-PERIOD FLOW

| TIME | RAIN | EXCS | COMP Q |
|------|------|------|--------|
| 1 | 0.01 | 0.00 | 150. |
| 2 | 0.01 | 0.00 | 150. |
| 3 | 0.01 | 0.00 | 150. |
| 4 | 0.01 | 0.00 | 150. |
| 5 | 0.01 | 0.00 | 150. |
| 6 | 0.01 | 0.00 | 150. |
| 7 | 0.02 | 0.00 | 150. |
| 8 | 0.02 | 0.00 | 150. |
| 9 | 0.02 | 0.00 | 150. |
| 10 | 0.02 | 0.00 | 150. |
| 11 | 0.02 | 0.00 | 150. |
| 12 | 0.02 | 0.00 | 150. |
| 13 | 0.05 | 0.00 | 150. |
| 14 | 0.07 | 0.00 | 150. |
| 15 | 0.08 | 0.00 | 150. |
| 16 | 0.21 | 0.00 | 150. |
| 17 | 0.08 | 0.00 | 150. |
| 18 | 0.06 | 0.00 | 150. |
| 19 | 0.01 | 0.00 | 150. |
| 20 | 0.01 | 0.00 | 150. |
| 21 | 0.01 | 0.00 | 150. |
| 22 | 0.01 | 0.00 | 150. |
| -- | -- | -- | -- |

| | | | |
|----|------|------|--------|
| 24 | 0.01 | 0.00 | 150. |
| 25 | 0.15 | 0.00 | 150. |
| 26 | 0.15 | 0.00 | 150. |
| 27 | 0.15 | 0.05 | 156. |
| 28 | 0.15 | 0.05 | 173. |
| 29 | 0.15 | 0.05 | 207. |
| 30 | 0.15 | 0.05 | 260. |
| 31 | 0.42 | 0.32 | 359. |
| 32 | 0.42 | 0.32 | 550. |
| 33 | 0.42 | 0.32 | 859. |
| 34 | 0.42 | 0.32 | 1295. |
| 35 | 0.42 | 0.32 | 1865. |
| 36 | 0.42 | 0.32 | 2566. |
| 37 | 1.45 | 1.35 | 3474. |
| 38 | 1.74 | 1.64 | 4748. |
| 39 | 2.18 | 2.08 | 6549. |
| 40 | 5.51 | 5.41 | 9317. |
| 41 | 2.03 | 1.93 | 13322. |
| 42 | 1.60 | 1.50 | 18302. |
| 43 | 0.22 | 0.12 | 23834. |
| 44 | 0.22 | 0.12 | 29465. |
| 45 | 0.22 | 0.12 | 34799. |
| 46 | 0.22 | 0.12 | 39352. |
| 47 | 0.22 | 0.12 | 42679. |
| 48 | 0.22 | 0.12 | 44528. |
| 49 | 0.0 | 0.0 | 44833. |
| 50 | 0.0 | 0.0 | 43628. |
| 51 | 0.0 | 0.0 | 41066. |
| 52 | 0.0 | 0.0 | 37764. |
| 53 | 0.0 | 0.0 | 34348. |
| 54 | 0.0 | 0.0 | 31092. |
| 55 | 0.0 | 0.0 | 28101. |
| 56 | 0.0 | 0.0 | 25353. |
| 57 | 0.0 | 0.0 | 22832. |
| 58 | 0.0 | 0.0 | 20527. |
| 59 | 0.0 | 0.0 | 18429. |
| 60 | 0.0 | 0.0 | 16539. |
| 61 | 0.0 | 0.0 | 14844. |
| 62 | 0.0 | 0.0 | 13324. |
| 63 | 0.0 | 0.0 | 11962. |
| 64 | 0.0 | 0.0 | 10740. |
| 65 | 0.0 | 0.0 | 9645. |
| 66 | 0.0 | 0.0 | 8663. |
| 67 | 0.0 | 0.0 | 7783. |
| 68 | 0.0 | 0.0 | 6993. |
| 69 | 0.0 | 0.0 | 6286. |
| 70 | 0.0 | 0.0 | 5651. |
| 71 | 0.0 | 0.0 | 5082. |
| 72 | 0.0 | 0.0 | 4572. |
| 73 | 0.0 | 0.0 | 4115. |
| 74 | 0.0 | 0.0 | 3705. |
| 75 | 0.0 | 0.0 | 3337. |
| 76 | 0.0 | 0.0 | 3008. |
| 77 | 0.0 | 0.0 | 2712. |
| 78 | 0.0 | 0.0 | 2447. |
| 79 | 0.0 | 0.0 | 2210. |
| 80 | 0.0 | 0.0 | 1997. |
| 81 | 0.0 | 0.0 | 1805. |
| 82 | 0.0 | 0.0 | 1633. |
| 83 | 0.0 | 0.0 | 1479. |
| 84 | 0.0 | 0.0 | 1340. |
| 85 | 0.0 | 0.0 | 1216. |
| 86 | 0.0 | 0.0 | 1099. |
| 87 | 0.0 | 0.0 | 993. |
| 88 | 0.0 | 0.0 | 899. |

| | | | |
|-----|-----|-----|------|
| 90 | 0.0 | 0.0 | 738. |
| 91 | 0.0 | 0.0 | 670. |
| 92 | 0.0 | 0.0 | 586. |
| 93 | 0.0 | 0.0 | 504. |
| 94 | 0.0 | 0.0 | 420. |
| 95 | 0.0 | 0.0 | 270. |
| 96 | 0.0 | 0.0 | 214. |
| 97 | 0.0 | 0.0 | 174. |
| 98 | 0.0 | 0.0 | 169. |
| 99 | 0.0 | 0.0 | 164. |
| 100 | 0.0 | 0.0 | 160. |
| 101 | 0.0 | 0.0 | 156. |
| 102 | 0.0 | 0.0 | 153. |
| 103 | 0.0 | 0.0 | 150. |
| 104 | 0.0 | 0.0 | 150. |
| 105 | 0.0 | 0.0 | 150. |
| 106 | 0.0 | 0.0 | 150. |
| 107 | 0.0 | 0.0 | 150. |
| 108 | 0.0 | 0.0 | 150. |
| 109 | 0.0 | 0.0 | 150. |
| 110 | 0.0 | 0.0 | 150. |
| 111 | 0.0 | 0.0 | 150. |
| 112 | 0.0 | 0.0 | 150. |
| 113 | 0.0 | 0.0 | 150. |
| 114 | 0.0 | 0.0 | 150. |
| 115 | 0.0 | 0.0 | 150. |
| 116 | 0.0 | 0.0 | 150. |
| 117 | 0.0 | 0.0 | 150. |
| 118 | 0.0 | 0.0 | 150. |
| 119 | 0.0 | 0.0 | 150. |
| 120 | 0.0 | 0.0 | 150. |
| 121 | 0.0 | 0.0 | 150. |
| 122 | 0.0 | 0.0 | 150. |
| 123 | 0.0 | 0.0 | 150. |
| 124 | 0.0 | 0.0 | 150. |
| 125 | 0.0 | 0.0 | 150. |
| 126 | 0.0 | 0.0 | 150. |
| 127 | 0.0 | 0.0 | 150. |
| 128 | 0.0 | 0.0 | 150. |
| 129 | 0.0 | 0.0 | 150. |
| 130 | 0.0 | 0.0 | 150. |
| 131 | 0.0 | 0.0 | 150. |
| 132 | 0.0 | 0.0 | 150. |
| 133 | 0.0 | 0.0 | 150. |
| 134 | 0.0 | 0.0 | 150. |
| 135 | 0.0 | 0.0 | 150. |
| 136 | 0.0 | 0.0 | 150. |
| 137 | 0.0 | 0.0 | 150. |
| 138 | 0.0 | 0.0 | 150. |
| 139 | 0.0 | 0.0 | 150. |
| 140 | 0.0 | 0.0 | 150. |
| 141 | 0.0 | 0.0 | 150. |
| 142 | 0.0 | 0.0 | 150. |
| 143 | 0.0 | 0.0 | 150. |
| 144 | 0.0 | 0.0 | 150. |
| 145 | 0.0 | 0.0 | 150. |
| 146 | 0.0 | 0.0 | 150. |
| 147 | 0.0 | 0.0 | 150. |
| 148 | 0.0 | 0.0 | 150. |
| 149 | 0.0 | 0.0 | 150. |
| 150 | 0.0 | 0.0 | 150. |

SUM 20.04 16.75 799003.

C-22

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME

| | | | | |
|--------|--------|--------|--------|--------|
| INCHES | 5.4Y | 14.1Y | 16.88 | 17.13 |
| AC-FT | 21175. | 54711. | 65098. | 66067. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 16. | 17. | 21. | 26. |
| 36. | 55. | 86. | 130. | 187. | 257. | 347. | 475. | 655. | 932. |
| 1332. | 1830. | 2383. | 2946. | 3480. | 3935. | 4268. | 4453. | 4483. | 4363. |
| 4107. | 3776. | 3435. | 3109. | 2810. | 2535. | 2283. | 2053. | 1843. | 1654. |
| 1494. | 1332. | 1196. | 1074. | 965. | 866. | 778. | 699. | 629. | 565. |
| 508. | 457. | 411. | 370. | 334. | 301. | 271. | 245. | 221. | 200. |
| 181. | 163. | 148. | 134. | 122. | 110. | 99. | 90. | 81. | 74. |
| 67. | 59. | 50. | 42. | 27. | 21. | 17. | 17. | 16. | 16. |
| 16. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 4483. | 4268. | 2757. | 1093. | 79896. |
| INCHES | | 0.55 | 1.42 | 1.69 | 1.71 |
| AC-FT | 2117. | 5471. | 6510. | | 6606. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 31. | 35. | 41. | 52. |
| 72. | 110. | 172. | 259. | 373. | 513. | 695. | 950. | 1310. | 1863. |
| 2664. | 3660. | 4767. | 5893. | 6960. | 7870. | 8536. | 8906. | 8967. | 8726. |
| 8213. | 7553. | 6869. | 6218. | 5620. | 5071. | 4566. | 4105. | 3686. | 3308. |
| 2969. | 2665. | 2392. | 2148. | 1929. | 1733. | 1557. | 1399. | 1257. | 1130. |
| 1016. | 914. | 823. | 741. | 667. | 602. | 542. | 489. | 442. | 399. |
| 361. | 327. | 296. | 268. | 243. | 220. | 199. | 180. | 163. | 148. |
| 134. | 117. | 101. | 84. | 54. | 43. | 35. | 34. | 33. | 32. |
| 31. | 31. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 8967. | 8536. | 5514. | 2187. | 159796. |
| INCHES | | 1.10 | 2.84 | 3.38 | 3.43 |
| AC-FT | 4235. | 10942. | 13019. | | 13213. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 3

| | | | | | | | | | |
|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 47. | 52. | 62. | 78. |
| 108. | 165. | 258. | 389. | 560. | 770. | 1042. | 1424. | 1965. | 2795. |
| 3997. | 5491. | 7150. | 8839. | 10440. | 11805. | 12804. | 13358. | 13450. | 13088. |
| 12320. | 11329. | 10304. | 9328. | 8430. | 7606. | 6850. | 6158. | 5529. | 4962. |
| 4453. | 3997. | 3589. | 3222. | 2894. | 2599. | 2335. | 2098. | 1886. | 1695. |
| 1525. | 1372. | 1234. | 1111. | 1001. | 902. | 814. | 734. | 663. | 599. |
| 542. | 490. | 444. | 402. | 365. | 330. | 298. | 270. | 244. | 221. |
| 201. | 176. | 151. | 126. | 81. | 64. | 52. | 51. | 49. | 48. |
| 47. | 46. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |

| | | | | |
|------|--------|---------|---------|--------------|
| PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|------|--------|---------|---------|--------------|

| | | | | |
|--------|-------|--------|--------|--------|
| INCHES | 1.65 | 4.26 | 5.06 | 5.14 |
| AC-FT | 6352. | 16413. | 19529. | 19820. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 4

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 62. | 69. | 83. | 104. |
| 144. | 220. | 343. | 518. | 746. | 1026. | 1390. | 1899. | 2620. | 3727. |
| 5329. | 7321. | 9533. | 11786. | 13919. | 15741. | 17072. | 17811. | 17933. | 17451. |
| 16426. | 15106. | 13739. | 12437. | 11240. | 10141. | 9133. | 8211. | 7372. | 6616. |
| 5938. | 5330. | 4785. | 4296. | 3858. | 3465. | 3113. | 2797. | 2514. | 2260. |
| 2033. | 1829. | 1646. | 1482. | 1335. | 1203. | 1085. | 979. | 884. | 799. |
| 722. | 653. | 592. | 536. | 486. | 439. | 397. | 360. | 326. | 295. |
| 268. | 234. | 201. | 168. | 108. | 86. | 69. | 67. | 66. | 64. |
| 63. | 61. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 17933. | 17072. | 11028. | 4374. | 319595. |
| INCHES | | 2.20 | 5.68 | 6.75 | 6.85 |
| AC-FT | | 8470. | 21884. | 26039. | 26426. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 5

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 78. | 87. | 104. | 130. |
| 179. | 275. | 429. | 648. | 933. | 1283. | 1737. | 2374. | 3274. | 4658. |
| 6661. | 9151. | 11917. | 14732. | 17399. | 19676. | 21339. | 22264. | 22416. | 21814. |
| 20533. | 18882. | 17174. | 15546. | 14050. | 12676. | 11416. | 10263. | 9215. | 8270. |
| 7422. | 6662. | 5981. | 5370. | 4823. | 4332. | 3891. | 3497. | 3143. | 2826. |
| 2541. | 2286. | 2057. | 1852. | 1669. | 1504. | 1356. | 1224. | 1105. | 998. |
| 903. | 817. | 739. | 670. | 608. | 549. | 497. | 449. | 407. | 369. |
| 335. | 293. | 252. | 210. | 135. | 107. | 87. | 84. | 82. | 80. |
| 78. | 76. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 22416. | 21340. | 13785. | 5467. | 399495. |
| INCHES | | 2.75 | 7.09 | 8.44 | 8.57 |
| AC-FT | | 10587. | 27355. | 32549. | 33033. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 6

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 94. | 104. | 124. | 156. |
| 215. | 330. | 515. | 777. | 1119. | 1539. | 2084. | 2849. | 3929. | 5590. |
| 7993. | 10981. | 14300. | 17679. | 20879. | 23611. | 25607. | 26717. | 26900. | 26177. |
| 24640. | 22658. | 20608. | 18655. | 16860. | 15212. | 13699. | 12316. | 11058. | 9923. |
| 8906. | 7995. | 7177. | 6444. | 5787. | 5198. | 4670. | 4196. | 3771. | 3391. |
| 3049. | 2743. | 2469. | 2223. | 2002. | 1805. | 1627. | 1468. | 1326. | 1198. |
| 1083. | 980. | 887. | 804. | 730. | 659. | 596. | 539. | 488. | 443. |
| 402. | 351. | 302. | 252. | 162. | 128. | 104. | 101. | 98. | 96. |
| 94. | 92. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |

| | | | | |
|------|--------|---------|---------|--------------|
| PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|------|--------|---------|---------|--------------|

| | | | | |
|--------|--------|--------|--------|--------|
| INCHES | 3.29 | 8.51 | 10.13 | 10.28 |
| AC-FT | 12705. | 32826. | 39050. | 39640. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 7

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 109. | 121. | 145. | 182. |
| 251. | 385. | 601. | 907. | 1306. | 1796. | 2432. | 3324. | 4584. | 6522. |
| 9326. | 12812. | 16684. | 20625. | 24359. | 27546. | 29875. | 31170. | 31383. | 30539. |
| 28746. | 26435. | 24043. | 21764. | 19670. | 17747. | 15982. | 14369. | 12901. | 11577. |
| 10391. | 9327. | 8373. | 7518. | 6752. | 6064. | 5448. | 4895. | 4400. | 3956. |
| 3558. | 3200. | 2880. | 2593. | 2336. | 2105. | 1898. | 1713. | 1547. | 1398. |
| 1264. | 1143. | 1035. | 938. | 851. | 769. | 695. | 629. | 570. | 517. |
| 469. | 410. | 353. | 294. | 189. | 150. | 122. | 118. | 115. | 112. |
| 109. | 107. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 31383. | 29876. | 19298. | 7654. | 559295. |
| INCHES | | 3.84 | 9.93 | 11.82 | 11.99 |
| AC-FT | | 14822. | 38298. | 45568. | 46247. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 8

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 125. | 139. | 166. | 208. |
| 287. | 440. | 687. | 1036. | 1492. | 2053. | 2779. | 3798. | 5239. | 7453. |
| 10658. | 14642. | 19067. | 23572. | 27839. | 31481. | 34143. | 35622. | 35866. | 34902. |
| 32853. | 30211. | 27478. | 24874. | 22480. | 20282. | 18266. | 16421. | 14744. | 13231. |
| 11875. | 10660. | 9570. | 8592. | 7716. | 6931. | 6226. | 5595. | 5029. | 4521. |
| 4066. | 3658. | 3292. | 2964. | 2670. | 2406. | 2170. | 1958. | 1768. | 1597. |
| 1444. | 1307. | 1183. | 1072. | 973. | 879. | 795. | 719. | 651. | 590. |
| 536. | 469. | 403. | 336. | 216. | 171. | 139. | 135. | 131. | 128. |
| 125. | 122. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |

| | | | | | |
|--------|--------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 35866. | 34145. | 22055. | 8747. | 639194. |
| INCHES | | 4.39 | 11.35 | 13.51 | 13.71 |
| AC-FT | | 16940. | 43769. | 52078. | 52853. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 9

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 156. | 173. | 207. | 260. |
| 359. | 550. | 858. | 1295. | 1865. | 2566. | 3474. | 4748. | 6549. | 9317. |
| 13322. | 18302. | 23834. | 29464. | 34798. | 39352. | 42679. | 44528. | 44833. | 43628. |
| 41066. | 37764. | 34347. | 31092. | 28101. | 25353. | 22832. | 20527. | 18429. | 16539. |
| 14844. | 13324. | 11962. | 10740. | 9645. | 8663. | 7783. | 6993. | 6286. | 5651. |
| 5082. | 4572. | 4115. | 3705. | 3337. | 3008. | 2712. | 2447. | 2209. | 1997. |
| 1805. | 1633. | 1479. | 1340. | 1216. | 1099. | 993. | 899. | 814. | 738. |
| 670. | 586. | 504. | 420. | 270. | 214. | 174. | 169. | 164. | 160. |
| 156. | 153. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME

INCHES 5.49 14.19 16.88 17.13
AC-FT 21175. 54711. 65097. 66067.

HYDROGRAPH ROUTING
ISTAQ ICOMP IECON ITAPE JPLT JPRT INAME
1 1 0 0 0 0 0
ROUTING DATA
GLOSS CLOSS AVG IRES ISANE
0.0 0.0 0.0 1 1
NSTPS NSTDL LAG ANSKK X TSK STORA
1 0 0 0.0 0.0 0.0 -1.

STORAGE# 0. 17328. 34756. 52184. 104368. 208736. 243492. 0. 0. 0.
TFLOW# 0. 353. 747. 1508. 6403. 13313. 17359. 0. 0. 0.

STATION 1, PLAN 1, RTIO 1
15. 15. 15. 15. 15. 15. 15. 15. 15. 15.
15. 15. 15. 15. 15. 15. 15. 15. 15. 15.
15. 15. 15. 15. 15. 15. 15. 15. 15. 15.
15. 15. 15. 15. 16. 16. 16. 17. 18. 19.
21. 24. 27. 32. 37. 43. 50. 57. 65. 72.
79. 86. 92. 97. 102. 106. 110. 113. 116. 119.
122. 124. 126. 127. 129. 130. 131. 132. 133. 134.
135. 135. 136. 136. 137. 137. 137. 137. 138. 138.
138. 138. 138. 138. 138. 138. 138. 138. 138. 137.
137. 137. 137. 137. 137. 137. 136. 136. 136. 136.
136. 135. 135. 135. 135. 135. 134. 134. 134. 134.
134. 133. 133. 133. 133. 133. 132. 132. 132. 132.
132. 131. 131. 131. 131. 131. 130. 130. 130. 130.
130. 129. 129. 129. 129. 129. 128. 128. 128. 128.
128. 128. 127. 127. 127. 127. 127. 126. 126. 126.

STOR
736. 736. 736. 736. 736. 736. 736. 736. 736. 736.
736. 736. 736. 736. 736. 736. 736. 736. 736. 736.
736. 736. 736. 736. 736. 736. 736. 736. 737. 737.
739. 741. 746. 754. 765. 782. 806. 839. 884. 948.
1040. 1168. 1340. 1558. 1821. 2124. 2459. 2815. 3179. 3539.
3883. 4202. 4493. 4755. 4992. 5204. 5394. 5564. 5715. 5850.
5970. 6076. 6170. 6254. 6327. 6392. 6449. 6500. 6543. 6582.
6615. 6644. 6668. 6689. 6707. 6722. 6734. 6744. 6752. 6758.
6763. 6765. 6767. 6767. 6766. 6764. 6762. 6758. 6754. 6749.
6743. 6737. 6730. 6723. 6714. 6705. 6695. 6686. 6676. 6666.
6656. 6646. 6636. 6626. 6616. 6606. 6596. 6587. 6577. 6567.
6557. 6547. 6537. 6528. 6518. 6508. 6498. 6489. 6479. 6469.
6460. 6450. 6441. 6431. 6421. 6412. 6402. 6393. 6383. 6374.
6364. 6355. 6345. 6336. 6326. 6317. 6308. 6298. 6289. 6279.
6270. 6261. 6252. 6242. 6233. 6224. 6214. 6205. 6196. 6187.

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME
138. 138. 137. 134. 13997.
CFS 0.02 0.07 0.21 0.30
INCHES 68. 273. 798. 1157.
AC-FT

STATION 1, PLAN 1, RTIO 2
30. 30. 30. 30. 30. 30. 30. 30. 30. 30.
30. 30. 30. 30. 30. 30. 30. 30. 30. 30.
30. 30. 30. 30. 30. 30. 30. 30. 30. 30.
30. 30. 30. 31. 31. 32. 33. 34. 36. 39.
42. 48. 55. 63. 74. 87. 100. 115. 130. 144.

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 243. | 248. | 251. | 255. | 258. | 260. | 263. | 265. | 267. | 268. |
| 270. | 271. | 272. | 273. | 273. | 274. | 274. | 275. | 275. | 275. |
| 276. | 276. | 276. | 276. | 276. | 276. | 275. | 275. | 275. | 275. |
| 275. | 274. | 274. | 274. | 274. | 273. | 273. | 272. | 272. | 272. |
| 271. | 271. | 270. | 270. | 270. | 269. | 269. | 268. | 268. | 268. |
| 267. | 267. | 266. | 266. | 266. | 265. | 265. | 264. | 264. | 264. |
| 263. | 263. | 262. | 262. | 262. | 261. | 261. | 260. | 260. | 260. |
| 259. | 259. | 259. | 258. | 258. | 257. | 257. | 257. | 256. | 256. |
| 255. | 255. | 255. | 254. | 254. | 254. | 253. | 253. | 252. | 252. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. |
| 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. |
| 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1474. | 1475. |
| 1478. | 1483. | 1492. | 1507. | 1531. | 1565. | 1612. | 1677. | 1767. | 1896. |
| 2079. | 2337. | 2681. | 3117. | 3642. | 4248. | 4918. | 5630. | 6359. | 7078. |
| 7766. | 8404. | 8985. | 9510. | 9983. | 10408. | 10788. | 11128. | 11431. | 11700. |
| 11940. | 12152. | 12341. | 12507. | 12655. | 12785. | 12899. | 12999. | 13087. | 13163. |
| 13230. | 13287. | 13337. | 13379. | 13415. | 13444. | 13469. | 13489. | 13505. | 13517. |
| 13525. | 13531. | 13534. | 13534. | 13533. | 13529. | 13524. | 13516. | 13508. | 13498. |
| 13487. | 13475. | 13461. | 13446. | 13429. | 13410. | 13391. | 13371. | 13352. | 13332. |
| 13312. | 13292. | 13272. | 13252. | 13233. | 13213. | 13193. | 13173. | 13154. | 13134. |
| 13114. | 13095. | 13075. | 13056. | 13036. | 13017. | 12997. | 12978. | 12958. | 12939. |
| 12920. | 12901. | 12881. | 12862. | 12843. | 12824. | 12805. | 12786. | 12767. | 12748. |
| 12729. | 12710. | 12691. | 12672. | 12653. | 12634. | 12615. | 12597. | 12578. | 12559. |
| 12541. | 12522. | 12503. | 12485. | 12466. | 12448. | 12429. | 12411. | 12393. | 12374. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 276. | 276. | 275. | 268. | 27995. |
| INCHES | | 0.04 | 0.14 | 0.41 | 0.60 |
| AC-FT | | 137. | 545. | 1597. | 2315. |

STATION 1, PLAN 1, RTIO 3

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 46. | 46. | 47. | 48. | 49. | 51. | 54. | 58. |
| 64. | 71. | 82. | 95. | 111. | 130. | 150. | 172. | 194. | 216. |
| 237. | 257. | 275. | 291. | 305. | 318. | 330. | 340. | 349. | 358. |
| 366. | 373. | 380. | 385. | 390. | 395. | 399. | 402. | 405. | 408. |
| 410. | 412. | 413. | 415. | 416. | 417. | 418. | 419. | 419. | 419. |
| 420. | 420. | 420. | 420. | 420. | 420. | 420. | 419. | 419. | 419. |
| 418. | 413. | 417. | 417. | 416. | 416. | 415. | 414. | 414. | 413. |
| 412. | 412. | 411. | 410. | 410. | 409. | 408. | 407. | 407. | 406. |
| 405. | 405. | 404. | 403. | 403. | 402. | 401. | 401. | 400. | 399. |
| 399. | 398. | 397. | 397. | 396. | 396. | 395. | 394. | 394. | 393. |
| 392. | 392. | 391. | 390. | 390. | 389. | 388. | 388. | 387. | 386. |
| 386. | 385. | 385. | 384. | 383. | 383. | 382. | 381. | 381. | 380. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. |
| 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. |
| 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2210. | 2212. |
| 2216. | 2224. | 2238. | 2261. | 2296. | 2347. | 2418. | 2516. | 2651. | 2843. |
| 3119. | 3505. | 4021. | 4675. | 5463. | 6372. | 7377. | 8445. | 9538. | 10618. |
| 11649. | 12605. | 13477. | 14265. | 14975. | 15611. | 16182. | 16692. | 17146. | 17551. |
| 17910. | 18228. | 18511. | 18760. | 18981. | 19176. | 19347. | 19497. | 19628. | 19742. |
| 19842. | 19927. | 20001. | 20064. | 20117. | 20161. | 20197. | 20227. | 20250. | 20267. |
| 20280. | 20288. | 20292. | 20292. | 20289. | 20283. | 20274. | 20263. | 20249. | 20234. |
| 20217. | 20198. | 20177. | 20154. | 20128. | 20100. | 20070. | 20040. | 20010. | 19980. |
| 19950. | 19919. | 19889. | 19859. | 19829. | 19799. | 19769. | 19739. | 19709. | 19679. |
| 19649. | 19619. | 19589. | 19560. | 19530. | 19501. | 19471. | 19442. | 19412. | 19383. |
| 19354. | 19324. | 19295. | 19266. | 19237. | 19208. | 19179. | 19150. | 19121. | 19093. |
| 19064. | 19035. | 19007. | 18978. | 18950. | 18921. | 18893. | 18864. | 18836. | 18808. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 420. | 420. | 418. | 407. | 42398. |
| INCHES | | 0.05 | 0.22 | 0.63 | 0.91 |
| AC-FT | | 200. | 830. | 2425. | 3506. |

STATION 1, PLAN 1, RTIO 4

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 61. | 61. | 62. | 64. | 66. | 68. | 72. | 77. |
| 85. | 95. | 109. | 127. | 148. | 173. | 200. | 229. | 259. | 288. |
| 316. | 342. | 368. | 391. | 413. | 432. | 449. | 464. | 478. | 490. |
| 501. | 511. | 519. | 527. | 533. | 539. | 544. | 549. | 553. | 556. |
| 559. | 562. | 564. | 566. | 567. | 568. | 570. | 570. | 571. | 572. |
| 572. | 572. | 572. | 572. | 572. | 572. | 572. | 571. | 571. | 570. |
| 570. | 569. | 569. | 568. | 567. | 566. | 565. | 564. | 563. | 562. |
| 562. | 561. | 560. | 559. | 558. | 557. | 556. | 555. | 554. | 553. |
| 552. | 551. | 550. | 550. | 549. | 548. | 547. | 546. | 545. | 544. |
| 543. | 542. | 541. | 540. | 540. | 539. | 538. | 537. | 536. | 535. |
| 534. | 533. | 532. | 532. | 531. | 530. | 529. | 528. | 527. | 526. |
| 525. | 525. | 524. | 523. | 522. | 521. | 520. | 519. | 519. | 518. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. |
| 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. |
| 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2946. | 2947. | 2950. |
| 2955. | 2965. | 2984. | 3014. | 3061. | 3129. | 3224. | 3354. | 3535. | 3791. |
| 4159. | 4674. | 5362. | 6233. | 7284. | 8496. | 9837. | 11260. | 12717. | 14157. |
| 15532. | 16807. | 17970. | 19020. | 19965. | 20814. | 21574. | 22253. | 22858. | 23396. |
| 23874. | 24297. | 24673. | 25005. | 25298. | 25556. | 25783. | 25982. | 26156. | 26300. |
| 26439. | 26553. | 26650. | 26732. | 26802. | 26860. | 26907. | 26945. | 26975. | 26997. |
| 27013. | 27023. | 27027. | 27026. | 27021. | 27012. | 26999. | 26983. | 26964. | 26943. |
| 26919. | 26893. | 26864. | 26832. | 26797. | 26758. | 26717. | 26676. | 26635. | 26594. |
| 26553. | 26512. | 26470. | 26429. | 26388. | 26347. | 26306. | 26265. | 26224. | 26183. |
| 26142. | 26102. | 26061. | 26021. | 25980. | 25940. | 25900. | 25859. | 25819. | 25779. |
| 25739. | 25699. | 25660. | 25620. | 25580. | 25540. | 25501. | 25462. | 25422. | 25383. |
| 25344. | 25304. | 25265. | 25226. | 25187. | 25149. | 25110. | 25071. | 25032. | 24994. |
| 24955. | 24917. | 24878. | 24840. | 24802. | 24764. | 24726. | 24688. | 24650. | 24612. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 572. | 572. | 570. | 555. | 57655. |
| INCHES | | 0.07 | 0.29 | 0.86 | 1.24 |
| AC-FT | | 284. | 1131. | 3304. | 4767. |

STATION 1, PLAN 1, RTIO 5

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 76. | 76. | 77. | 78. | 80. | 82. | 85. | 90. | 97. |
| 106. | 119. | 137. | 159. | 185. | 216. | 250. | 287. | 324. | 361. |
| 400. | 436. | 469. | 499. | 525. | 549. | 571. | 590. | 607. | 622. |
| 636. | 648. | 658. | 668. | 676. | 683. | 690. | 695. | 700. | 704. |
| 708. | 711. | 714. | 716. | 718. | 720. | 721. | 722. | 723. | 724. |
| 724. | 724. | 724. | 724. | 724. | 724. | 724. | 723. | 723. | 722. |
| 721. | 721. | 720. | 719. | 718. | 717. | 715. | 714. | 713. | 712. |
| 711. | 710. | 708. | 707. | 706. | 705. | 704. | 703. | 701. | 700. |
| 699. | 698. | 697. | 696. | 694. | 693. | 692. | 691. | 690. | 689. |
| 687. | 686. | 685. | 684. | 683. | 682. | 681. | 679. | 678. | 677. |
| 676. | 675. | 674. | 673. | 672. | 671. | 669. | 668. | 667. | 666. |
| 665. | 664. | 663. | 662. | 661. | 659. | 658. | 657. | 656. | 655. |

STOR

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. |
| 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. |
| 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3684. | 3687. |

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3178. | 3842. | 6182. | 1171. | 7183. | 18628. | 12276. | 14873. | 13876. | 17676. |
| 19414. | 21088. | 22461. | 23773. | 24954. | 26014. | 26963. | 27811. | 28566. | 29238. |
| 29834. | 30363. | 30832. | 31246. | 31612. | 31934. | 32217. | 32465. | 32682. | 32870. |
| 33033. | 33174. | 33295. | 33397. | 33484. | 33555. | 33614. | 33661. | 33697. | 33724. |
| 33743. | 33754. | 33759. | 33757. | 33750. | 33738. | 33721. | 33701. | 33676. | 33649. |
| 33618. | 33585. | 33548. | 33507. | 33462. | 33413. | 33362. | 33310. | 33258. | 33205. |
| 33153. | 33101. | 33048. | 32996. | 32944. | 32892. | 32840. | 32788. | 32736. | 32684. |
| 32633. | 32581. | 32530. | 32478. | 32427. | 32376. | 32325. | 32274. | 32223. | 32172. |
| 32122. | 32071. | 32021. | 31970. | 31920. | 31870. | 31820. | 31770. | 31720. | 31670. |
| 31620. | 31571. | 31521. | 31472. | 31422. | 31373. | 31324. | 31275. | 31226. | 31177. |
| 31120. | 31079. | 31031. | 30982. | 30934. | 30885. | 30837. | 30789. | 30741. | 30693. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 724. | 724. | 721. | 703. | 72947. |
| INCHES | | 0.09 | 0.37 | 1.08 | 1.56 |
| AC-FT | | 359. | 1431. | 4183. | 6032. |

| STATION 1, PLAN 1, RTIO 6 | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 91. | 91. | 92. | 94. | 96. | 99. | 102. | 108. | 116. |
| 127. | 143. | 164. | 190. | 223. | 260. | 301. | 344. | 393. | 441. |
| 488. | 531. | 571. | 606. | 638. | 667. | 693. | 716. | 736. | 761. |
| 792. | 820. | 844. | 866. | 885. | 901. | 916. | 928. | 939. | 949. |
| 957. | 964. | 970. | 975. | 979. | 982. | 985. | 987. | 989. | 990. |
| 990. | 990. | 990. | 989. | 989. | 988. | 986. | 985. | 983. | 981. |
| 979. | 977. | 975. | 972. | 969. | 966. | 963. | 960. | 957. | 954. |
| 951. | 948. | 945. | 942. | 939. | 936. | 933. | 930. | 927. | 924. |
| 921. | 918. | 915. | 912. | 909. | 906. | 903. | 900. | 897. | 894. |
| 891. | 888. | 885. | 882. | 880. | 877. | 874. | 871. | 868. | 865. |
| 863. | 860. | 857. | 854. | 852. | 849. | 846. | 843. | 841. | 838. |
| 835. | 833. | 830. | 827. | 825. | 822. | 819. | 817. | 814. | 811. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. |
| 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. |
| 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4419. | 4421. | 4425. |
| 4433. | 4448. | 4475. | 4521. | 4592. | 4694. | 4836. | 5031. | 5302. | 5687. |
| 6238. | 7011. | 8043. | 9350. | 10926. | 12744. | 14755. | 16890. | 19076. | 21234. |
| 23296. | 25208. | 26950. | 28524. | 29940. | 31212. | 32350. | 33367. | 34273. | 35078. |
| 35792. | 36424. | 36982. | 37474. | 37907. | 38287. | 38620. | 38910. | 39162. | 39380. |
| 39567. | 39727. | 39863. | 39976. | 40070. | 40146. | 40207. | 40253. | 40287. | 40310. |
| 40322. | 40326. | 40321. | 40309. | 40291. | 40266. | 40237. | 40202. | 40163. | 40121. |
| 40075. | 40025. | 39971. | 39914. | 39850. | 39782. | 39712. | 39641. | 39570. | 39499. |
| 39429. | 39358. | 39287. | 39216. | 39146. | 39076. | 39006. | 38937. | 38868. | 38799. |
| 38730. | 38661. | 38593. | 38525. | 38457. | 38390. | 38322. | 38255. | 38189. | 38122. |
| 38056. | 37990. | 37924. | 37858. | 37793. | 37728. | 37663. | 37598. | 37533. | 37469. |
| 37405. | 37342. | 37278. | 37215. | 37152. | 37089. | 37026. | 36964. | 36902. | 36840. |
| 36778. | 36717. | 36655. | 36594. | 36533. | 36473. | 36412. | 36352. | 36292. | 36233. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 990. | 990. | 982. | 934. | 94794. |
| INCHES | | 0.13 | 0.51 | 1.44 | 2.03 |
| AC-FT | | 491. | 1949. | 5558. | 7838. |

| STATION 1, PLAN 1, RTIO 7 | | | | | | | | | |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 106. | 106. | 107. | 109. | 112. | 115. | 120. | 126. | 135. |
| 148. | 167. | 191. | 222. | 260. | 303. | 351. | 407. | 464. | 521. |
| 576. | 626. | 672. | 714. | 754. | 819. | 877. | 928. | 974. | 1015. |
| 1051. | 1082. | 1110. | 1135. | 1157. | 1176. | 1192. | 1206. | 1219. | 1229. |
| 1239. | 1244. | 1253. | 1258. | 1262. | 1264. | 1269. | 1270. | 1272. | 1272. |

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1256. | 1253. | 1250. | 1246. | 1243. | 1239. | 1235. | 1231. | 1227. | 1223. |
| 1219. | 1215. | 1211. | 1207. | 1203. | 1199. | 1195. | 1191. | 1187. | 1183. |
| 1179. | 1176. | 1172. | 1168. | 1164. | 1160. | 1156. | 1153. | 1149. | 1145. |
| 1141. | 1138. | 1134. | 1130. | 1127. | 1123. | 1119. | 1116. | 1112. | 1108. |
| 1105. | 1101. | 1097. | 1094. | 1090. | 1087. | 1083. | 1080. | 1076. | 1073. |
| 1069. | 1066. | 1062. | 1059. | 1055. | 1052. | 1049. | 1045. | 1042. | 1038. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. |
| 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. |
| 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5155. | 5158. | 5162. |
| 5172. | 5189. | 5221. | 5275. | 5357. | 5476. | 5641. | 5870. | 6186. | 6634. |
| 7277. | 8179. | 9383. | 10908. | 12747. | 14868. | 17214. | 19795. | 22254. | 24772. |
| 27177. | 29407. | 31439. | 33275. | 34927. | 36408. | 37731. | 38911. | 39959. | 40888. |
| 41711. | 42437. | 43078. | 43642. | 44137. | 44570. | 44948. | 45276. | 45560. | 45804. |
| 46013. | 46190. | 46338. | 46460. | 46559. | 46639. | 46699. | 46744. | 46773. | 46790. |
| 46795. | 46789. | 46774. | 46750. | 46719. | 46681. | 46637. | 46587. | 46532. | 46473. |
| 46410. | 46343. | 46271. | 46194. | 46111. | 46023. | 45932. | 45840. | 45748. | 45656. |
| 45564. | 45473. | 45381. | 45290. | 45199. | 45108. | 45018. | 44928. | 44839. | 44749. |
| 44660. | 44572. | 44483. | 44395. | 44308. | 44220. | 44133. | 44047. | 43960. | 43874. |
| 43788. | 43703. | 43617. | 43533. | 43448. | 43364. | 43280. | 43196. | 43113. | 43030. |
| 42947. | 42864. | 42782. | 42700. | 42619. | 42537. | 42456. | 42376. | 42295. | 42215. |
| 42135. | 42056. | 41976. | 41898. | 41819. | 41740. | 41662. | 41584. | 41507. | 41430. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 1273. | 1272. | 1262. | 1200. | 120824. |
| INCHES | | 0.16 | 0.65 | 1.85 | 2.59 |
| AC-FT | | 631. | 2505. | 7143. | 9991. |

STATION 1, PLAN 1, RTIO 8

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 121. | 122. | 123. | 125. | 127. | 131. | 137. | 144. | 154. |
| 169. | 190. | 218. | 254. | 297. | 346. | 406. | 470. | 536. | 601. |
| 663. | 721. | 798. | 890. | 972. | 1045. | 1111. | 1169. | 1221. | 1267. |
| 1308. | 1344. | 1375. | 1403. | 1427. | 1449. | 1467. | 1483. | 1497. | 1509. |
| 1531. | 1549. | 1564. | 1576. | 1586. | 1593. | 1598. | 1602. | 1604. | 1604. |
| 1604. | 1602. | 1599. | 1596. | 1591. | 1586. | 1580. | 1574. | 1567. | 1560. |
| 1552. | 1544. | 1535. | 1526. | 1517. | 1507. | 1502. | 1498. | 1493. | 1488. |
| 1483. | 1478. | 1473. | 1468. | 1463. | 1458. | 1454. | 1449. | 1444. | 1439. |
| 1435. | 1430. | 1425. | 1420. | 1416. | 1411. | 1406. | 1402. | 1397. | 1392. |
| 1388. | 1383. | 1379. | 1374. | 1370. | 1365. | 1361. | 1356. | 1352. | 1347. |
| 1343. | 1339. | 1334. | 1330. | 1325. | 1321. | 1317. | 1312. | 1308. | 1304. |
| 1300. | 1295. | 1291. | 1287. | 1283. | 1279. | 1274. | 1270. | 1266. | 1262. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5891. | 5891. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. |
| 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. |
| 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5891. | 5892. | 5894. | 5900. |
| 5910. | 5930. | 5967. | 6028. | 6122. | 6258. | 6447. | 6708. | 7070. | 7582. |
| 8317. | 9340. | 10724. | 12466. | 14568. | 16992. | 19673. | 22520. | 25432. | 28309. |
| 31057. | 33606. | 35927. | 38020. | 39900. | 41584. | 43088. | 44427. | 45616. | 46669. |
| 47600. | 48421. | 49145. | 49781. | 50338. | 50824. | 51247. | 51614. | 51930. | 52200. |
| 52429. | 52621. | 52780. | 52908. | 53010. | 53089. | 53146. | 53184. | 53206. | 53212. |
| 53205. | 53187. | 53157. | 53118. | 53071. | 53016. | 52955. | 52887. | 52814. | 52736. |
| 52654. | 52567. | 52476. | 52380. | 52277. | 52168. | 52057. | 51944. | 51831. | 51719. |
| 51607. | 51495. | 51383. | 51271. | 51160. | 51049. | 50939. | 50829. | 50719. | 50610. |
| 50501. | 50392. | 50284. | 50177. | 50069. | 49962. | 49856. | 49750. | 49644. | 49539. |
| 49434. | 49329. | 49225. | 49121. | 49018. | 48914. | 48812. | 48709. | 48607. | 48506. |
| 48404. | 48304. | 48203. | 48103. | 48003. | 47904. | 47805. | 47706. | 47607. | 47509. |
| 47412. | 47314. | 47217. | 47121. | 47025. | 46929. | 46833. | 46738. | 46643. | 46548. |

| | | | | | |
|-----|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 1604. | 1603. | 1576. | 1475. | 147798. |

AD-A072 137

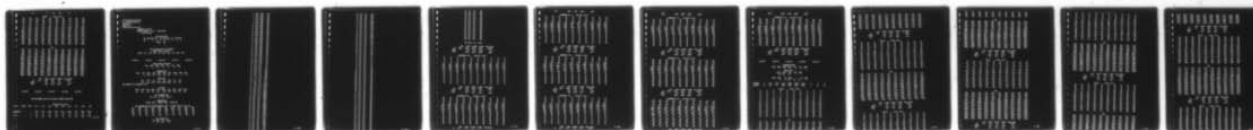
NEW YORK STATE DEPT OF ENVIRONMENTAL CONSERVATION ALBANY F/G 13/2
NATIONAL DAM SAFETY PROGRAM. SKANEATELES LAKE DAM (NY414), OSWE--ETC(U)
SEP 78 J B STETSON DACW51-78-C-0035

UNCLASSIFIED

NL

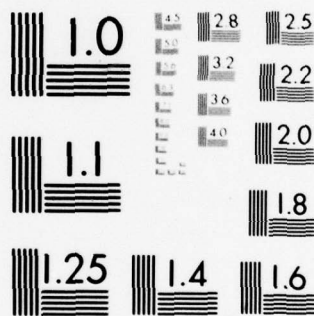
2 OF 2

AD
A072137



END
DATE
FILMED
9-79

DDC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

| | | | STATION 1, PLAN 1, RTIO 9 | | | | | | |
|-------|-------|-------|---------------------------|-------|-------|-------|-------|-------|-------|
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 151. | 151. | 152. | 154. | 156. | 159. | 164. | 171. | 180. | 193. |
| 212. | 238. | 273. | 317. | 373. | 441. | 517. | 598. | 680. | 774. |
| 924. | 1063. | 1189. | 1302. | 1404. | 1496. | 1656. | 1810. | 1947. | 2067. |
| 2172. | 2264. | 2344. | 2414. | 2474. | 2525. | 2569. | 2607. | 2638. | 2663. |
| 2604. | 2701. | 2714. | 2723. | 2729. | 2732. | 2733. | 2732. | 2729. | 2724. |
| 2718. | 2710. | 2701. | 2691. | 2680. | 2669. | 2656. | 2643. | 2629. | 2615. |
| 2600. | 2585. | 2569. | 2553. | 2536. | 2518. | 2500. | 2482. | 2464. | 2446. |
| 2429. | 2411. | 2394. | 2376. | 2359. | 2342. | 2325. | 2308. | 2292. | 2275. |
| 2259. | 2242. | 2226. | 2210. | 2194. | 2179. | 2163. | 2147. | 2132. | 2117. |
| 2101. | 2086. | 2071. | 2057. | 2042. | 2027. | 2013. | 1998. | 1984. | 1970. |
| 1956. | 1942. | 1928. | 1914. | 1901. | 1887. | 1874. | 1860. | 1847. | 1834. |
| 1821. | 1808. | 1795. | 1783. | 1770. | 1758. | 1745. | 1733. | 1721. | 1709. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. |
| 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. |
| 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7365. | 7368. | 7375. |
| 7388. | 7413. | 7459. | 7535. | 7653. | 7823. | 8059. | 8385. | 8837. | 9477. |
| 10396. | 11684. | 13404. | 15582. | 18209. | 21240. | 24590. | 28147. | 31787. | 35382. |
| 38812. | 41987. | 44874. | 47475. | 49809. | 51898. | 53759. | 55408. | 56862. | 58141. |
| 59263. | 60244. | 61098. | 61840. | 62480. | 63030. | 63499. | 63896. | 64228. | 64502. |
| 64724. | 64901. | 65036. | 65134. | 65200. | 65237. | 65247. | 65234. | 65201. | 65150. |
| 65082. | 65000. | 64905. | 64798. | 64682. | 64557. | 64423. | 64282. | 64135. | 63983. |
| 63825. | 63663. | 63495. | 63322. | 63140. | 62951. | 62760. | 62568. | 62377. | 62188. |
| 61999. | 61812. | 61626. | 61441. | 61258. | 61076. | 60896. | 60717. | 60539. | 60363. |
| 60188. | 60014. | 59842. | 59671. | 59501. | 59333. | 59166. | 59000. | 58836. | 58673. |
| 58511. | 58350. | 58191. | 58032. | 57875. | 57720. | 57565. | 57412. | 57260. | 57109. |
| 56959. | 56810. | 56662. | 56516. | 56371. | 56227. | 56084. | 55942. | 55801. | 55661. |
| 55523. | 55385. | 55248. | 55113. | 54979. | 54845. | 54713. | 54581. | 54451. | 54322. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 2733. | 2730. | 2684. | 2411. | 231565. |
| INCHES | | 0.35 | 1.38 | 3.72 | 4.97 |
| AC-FT | | 1354. | 5327. | 14354. | 19147. |

PEAK FLOW SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

| RATON | STATION | PLAN | RATIOS APPLIED TO FLOWS | | | | | | | | |
|-------------|---------|------|-------------------------|-------|--------|--------|--------|--------|--------|--------|--------|
| | | | 0.10 | 0.20 | 0.30 | 0.40 | 0.50 | 0.60 | 0.70 | 0.80 | 1.00 |
| DROGRAPH AT | 1 | 1 | 4483. | 8967. | 13450. | 17933. | 22416. | 26900. | 31383. | 35866. | 44833. |
| | | 2 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| TED-J | 1 | 1 | 138. | 276. | 420. | 572. | 724. | 990. | 1273. | 1604. | 2733. |
| | | 2 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |

EC-1 VERSION DATED JAN 1973

PDATED AUG 74

CHANGE NO. 01

SKANEATELES LAKE DAM
RESERVOIR ROUTING OF P.M.F. - CLARK METHOD
39 FOOT SPILLWAY

JOB SPECIFICATION

| NO | NHR | NMIN | IDAY | IHR | IMIN | METRC | IPLT | IPRT | NSTAN |
|-------|-----|------|------|-----|------|-------|------|------|-------|
| 150 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| JOPER | | | | | NWT | | | | |
| 5 | | | | | 0 | | | | |

MULTI-PLAN ANALYSES TO BE PERFORMED

NPLAN# 1 MRTIO# 9 LRTIO# 1

RTIOS# 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00

SUB-AREA RUNOFF COMPUTATION

| ISTAQ | ICOMP | IECON | ITAPE | JPLT | JPRT | INAME |
|-------|-------|-------|-------|------|------|-------|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |

HYDROGRAPH DATA

| IHYDC | IUGC | TAREA | SNAP | TRSDA | TRSPC | RATIO | ISMOW | ISAME | LOCAL |
|-------|------|-------|------|-------|-------|-------|-------|-------|-------|
| 1 | 0 | 72.30 | 0.0 | 72.30 | 0.0 | 0.0 | 0 | 1 | 0 |

PRECIP DATA

| SPFE | PMS | R6 | R12 | R24 | R48 | R72 | R96 |
|------|-------|-------|-------|--------|--------|-----|-----|
| 0.0 | 21.10 | 80.00 | 94.00 | 106.00 | 110.00 | 0.0 | 0.0 |

RSPC COMPUTED BY THE PROGRAM IS 0.859

LOSS DATA

| STRKR | DLTKR | RTIOL | ERAIN | STRKS | RTIOK | STRTL | CNSTL | ALSMX | RTIMP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 0.0 | 1.00 | 0.0 | 0.0 | 1.00 | 1.00 | 0.10 | 0.0 | 0.0 |

UNIT HYDROGRAPH DATA

TC# 8.50 R# 8.50 NTA# 0

RECESSION DATA

STRTO# 150.00 ORCSN# 150.00 RTIOR# 1.00

UNIT HYDROGRAPH 50 END-OF-PERIOD ORDINATES, LAG# 7.74 HOURS, CP# 0.57 VOL# 1.00

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 148. | 550. | 1109. | 1750. | 2410. | 2966. | 3333. | 3495. | 3378. | 3055. |
| 2716. | 2414. | 2146. | 1907. | 1695. | 1507. | 1339. | 1191. | 1058. | 941. |
| 836. | 743. | 661. | 587. | 522. | 464. | 412. | 367. | 326. | 290. |
| 258. | 229. | 203. | 181. | 161. | 143. | 127. | 113. | 100. | 89. |
| 79. | 70. | 63. | 56. | 50. | 44. | 39. | 35. | 31. | 27. |

END-OF-PERIOD FLOW

| TIME | RAIN | EXCS | COMP Q |
|------|------|------|--------|
| 1 | 0.01 | 0.00 | 150 |

| | | | |
|----|------|------|--------|
| 3 | 0.01 | 0.00 | 150. |
| 4 | 0.01 | 0.00 | 150. |
| 5 | 0.01 | 0.00 | 150. |
| 6 | 0.01 | 0.00 | 150. |
| 7 | 0.02 | 0.00 | 150. |
| 8 | 0.02 | 0.00 | 150. |
| 9 | 0.02 | 0.00 | 150. |
| 10 | 0.02 | 0.00 | 150. |
| 11 | 0.02 | 0.00 | 150. |
| 12 | 0.02 | 0.00 | 150. |
| 13 | 0.05 | 0.00 | 150. |
| 14 | 0.07 | 0.00 | 150. |
| 15 | 0.08 | 0.00 | 150. |
| 16 | 0.21 | 0.00 | 150. |
| 17 | 0.08 | 0.00 | 150. |
| 18 | 0.06 | 0.00 | 150. |
| 19 | 0.01 | 0.00 | 150. |
| 20 | 0.01 | 0.00 | 150. |
| 21 | 0.01 | 0.00 | 150. |
| 22 | 0.01 | 0.00 | 150. |
| 23 | 0.01 | 0.00 | 150. |
| 24 | 0.01 | 0.00 | 150. |
| 25 | 0.15 | 0.00 | 150. |
| 26 | 0.15 | 0.00 | 151. |
| 27 | 0.15 | 0.05 | 159. |
| 28 | 0.15 | 0.05 | 187. |
| 29 | 0.15 | 0.05 | 240. |
| 30 | 0.15 | 0.05 | 321. |
| 31 | 0.42 | 0.32 | 474. |
| 32 | 0.42 | 0.32 | 762. |
| 33 | 0.42 | 0.32 | 1221. |
| 34 | 0.42 | 0.32 | 1864. |
| 35 | 0.42 | 0.32 | 2684. |
| 36 | 0.42 | 0.32 | 3645. |
| 37 | 1.45 | 1.35 | 4844. |
| 38 | 1.74 | 1.64 | 6530. |
| 39 | 2.18 | 2.08 | 8927. |
| 40 | 5.51 | 5.41 | 12713. |
| 41 | 2.03 | 1.93 | 18328. |
| 42 | 1.60 | 1.50 | 25294. |
| 43 | 0.22 | 0.12 | 32819. |
| 44 | 0.22 | 0.12 | 39956. |
| 45 | 0.22 | 0.12 | 45623. |
| 46 | 0.22 | 0.12 | 49056. |
| 47 | 0.22 | 0.12 | 50056. |
| 48 | 0.22 | 0.12 | 48584. |
| 49 | 0.0 | 0.0 | 45296. |
| 50 | 0.0 | 0.0 | 41291. |
| 51 | 0.0 | 0.0 | 37262. |
| 52 | 0.0 | 0.0 | 33518. |
| 53 | 0.0 | 0.0 | 30089. |
| 54 | 0.0 | 0.0 | 26945. |
| 55 | 0.0 | 0.0 | 24069. |
| 56 | 0.0 | 0.0 | 21449. |
| 57 | 0.0 | 0.0 | 19089. |
| 58 | 0.0 | 0.0 | 16984. |
| 59 | 0.0 | 0.0 | 15114. |
| 60 | 0.0 | 0.0 | 13451. |
| 61 | 0.0 | 0.0 | 11973. |
| 62 | 0.0 | 0.0 | 10660. |
| 63 | 0.0 | 0.0 | 9492. |
| 64 | 0.0 | 0.0 | 8454. |
| 65 | 0.0 | 0.0 | 7531. |
| 66 | 0.0 | 0.0 | 6711. |
| 67 | 0.0 | 0.0 | 5982. |

| | | | |
|-----|-----|-----|-------|
| 69 | 0.0 | 0.0 | 4758. |
| 70 | 0.0 | 0.0 | 4246. |
| 71 | 0.0 | 0.0 | 3791. |
| 72 | 0.0 | 0.0 | 3386. |
| 73 | 0.0 | 0.0 | 3027. |
| 74 | 0.0 | 0.0 | 2707. |
| 75 | 0.0 | 0.0 | 2423. |
| 76 | 0.0 | 0.0 | 2170. |
| 77 | 0.0 | 0.0 | 1945. |
| 78 | 0.0 | 0.0 | 1744. |
| 79 | 0.0 | 0.0 | 1566. |
| 80 | 0.0 | 0.0 | 1408. |
| 81 | 0.0 | 0.0 | 1260. |
| 82 | 0.0 | 0.0 | 1129. |
| 83 | 0.0 | 0.0 | 1012. |
| 84 | 0.0 | 0.0 | 900. |
| 85 | 0.0 | 0.0 | 816. |
| 86 | 0.0 | 0.0 | 734. |
| 87 | 0.0 | 0.0 | 636. |
| 88 | 0.0 | 0.0 | 542. |
| 89 | 0.0 | 0.0 | 448. |
| 90 | 0.0 | 0.0 | 283. |
| 91 | 0.0 | 0.0 | 221. |
| 92 | 0.0 | 0.0 | 177. |
| 93 | 0.0 | 0.0 | 171. |
| 94 | 0.0 | 0.0 | 166. |
| 95 | 0.0 | 0.0 | 161. |
| 96 | 0.0 | 0.0 | 157. |
| 97 | 0.0 | 0.0 | 153. |
| 98 | 0.0 | 0.0 | 150. |
| 99 | 0.0 | 0.0 | 150. |
| 100 | 0.0 | 0.0 | 150. |
| 101 | 0.0 | 0.0 | 150. |
| 102 | 0.0 | 0.0 | 150. |
| 103 | 0.0 | 0.0 | 150. |
| 104 | 0.0 | 0.0 | 150. |
| 105 | 0.0 | 0.0 | 150. |
| 106 | 0.0 | 0.0 | 150. |
| 107 | 0.0 | 0.0 | 150. |
| 108 | 0.0 | 0.0 | 150. |
| 109 | 0.0 | 0.0 | 150. |
| 110 | 0.0 | 0.0 | 150. |
| 111 | 0.0 | 0.0 | 150. |
| 112 | 0.0 | 0.0 | 150. |
| 113 | 0.0 | 0.0 | 150. |
| 114 | 0.0 | 0.0 | 150. |
| 115 | 0.0 | 0.0 | 150. |
| 116 | 0.0 | 0.0 | 150. |
| 117 | 0.0 | 0.0 | 150. |
| 118 | 0.0 | 0.0 | 150. |
| 119 | 0.0 | 0.0 | 150. |
| 120 | 0.0 | 0.0 | 150. |
| 121 | 0.0 | 0.0 | 150. |
| 122 | 0.0 | 0.0 | 150. |
| 123 | 0.0 | 0.0 | 150. |
| 124 | 0.0 | 0.0 | 150. |
| 125 | 0.0 | 0.0 | 150. |
| 126 | 0.0 | 0.0 | 150. |
| 127 | 0.0 | 0.0 | 150. |
| 128 | 0.0 | 0.0 | 150. |
| 129 | 0.0 | 0.0 | 150. |
| 130 | 0.0 | 0.0 | 150. |
| 131 | 0.0 | 0.0 | 150. |
| 132 | 0.0 | 0.0 | 150. |

| | | | |
|-----|-----|-----|------|
| 135 | 0.0 | 0.0 | 150. |
| 136 | 0.0 | 0.0 | 150. |
| 137 | 0.0 | 0.0 | 150. |
| 138 | 0.0 | 0.0 | 150. |
| 139 | 0.0 | 0.0 | 150. |
| 140 | 0.0 | 0.0 | 150. |
| 141 | 0.0 | 0.0 | 150. |
| 142 | 0.0 | 0.0 | 150. |
| 143 | 0.0 | 0.0 | 150. |
| 144 | 0.0 | 0.0 | 150. |
| 145 | 0.0 | 0.0 | 150. |
| 146 | 0.0 | 0.0 | 150. |
| 147 | 0.0 | 0.0 | 150. |
| 148 | 0.0 | 0.0 | 150. |
| 149 | 0.0 | 0.0 | 150. |
| 150 | 0.0 | 0.0 | 150. |

SUM 20.04 16.75 798977.

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 50056. | 46651. | 28296. | 10934. | 798975. |
| INCHES | | 6.00 | 14.56 | 16.88 | 17.13 |
| AC-FT | | 23145. | 56154. | 65098. | 66065. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 16. | 19. | 24. | 32. |
| 47. | 76. | 122. | 186. | 268. | 364. | 484. | 653. | 893. | 1271. |
| 1833. | 2529. | 3282. | 3996. | 4562. | 4906. | 5006. | 4858. | 4530. | 4129. |
| 3726. | 3352. | 3009. | 2695. | 2407. | 2145. | 1909. | 1698. | 1511. | 1345. |
| 1197. | 1066. | 949. | 845. | 753. | 671. | 598. | 533. | 476. | 425. |
| 379. | 339. | 303. | 271. | 242. | 217. | 194. | 174. | 157. | 141. |
| 126. | 113. | 101. | 91. | 82. | 73. | 64. | 54. | 45. | 28. |
| 22. | 18. | 17. | 17. | 16. | 16. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 5006. | 4665. | 2830. | 1093. | 79893. |
| INCHES | | 0.60 | 1.46 | 1.69 | 1.71 |
| AC-FT | | 2314. | 5615. | 6510. | 6606. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 32. | 37. | 48. | 64. |
| 95. | 152. | 244. | 373. | 537. | 729. | 969. | 1306. | 1785. | 2543. |
| 3666. | 5059. | 6564. | 7991. | 9125. | 9811. | 10011. | 9717. | 9059. | 8258. |
| 7452. | 6704. | 6018. | 5389. | 4814. | 4290. | 3818. | 3397. | 3023. | 2690. |
| 2395. | 2132. | 1898. | 1691. | 1506. | 1342. | 1196. | 1067. | 952. | 849. |
| 750. | 677. | 605. | 541. | 485. | 434. | 389. | 349. | 313. | 282. |
| 252. | 226. | 202. | 182. | 163. | 147. | 127. | 108. | 90. | 57. |
| 44. | 35. | 34. | 33. | 32. | 31. | 31. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|-----|-------|--------|---------|---------|--------------|
| CFS | 10011 | 9228 | 8120 | 6127 | 5127 |

AC-FT

4629.

11231.

13019.

13213.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 3

| | | | | | | | | | |
|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 48. | 56. | 72. | 96. |
| 142. | 228. | 366. | 559. | 805. | 1093. | 1453. | 1959. | 2678. | 3814. |
| 5498. | 7588. | 9846. | 11987. | 13687. | 14717. | 15017. | 14575. | 13589. | 12387. |
| 11178. | 10055. | 9027. | 8004. | 7221. | 6435. | 5727. | 5095. | 4534. | 4035. |
| 3592. | 3198. | 2848. | 2536. | 2259. | 2013. | 1795. | 1600. | 1427. | 1274. |
| 1137. | 1016. | 908. | 812. | 727. | 651. | 583. | 523. | 470. | 422. |
| 378. | 339. | 304. | 273. | 245. | 220. | 191. | 163. | 134. | 85. |
| 66. | 53. | 51. | 50. | 48. | 47. | 46. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 15017. | 13995. | 8489. | 3280. | 239688. |
| INCHES | | 1.00 | 4.37 | 5.06 | 5.14 |
| AC-FT | | 6943. | 16846. | 19529. | 19819. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 4

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 64. | 75. | 96. | 129. |
| 189. | 305. | 488. | 746. | 1074. | 1458. | 1938. | 2612. | 3571. | 5085. |
| 7331. | 10118. | 13127. | 15783. | 18249. | 19622. | 20022. | 19434. | 18118. | 16516. |
| 14905. | 13407. | 12036. | 10778. | 9627. | 8588. | 7635. | 6794. | 6046. | 5388. |
| 4789. | 4264. | 3797. | 3382. | 3012. | 2684. | 2393. | 2134. | 1903. | 1698. |
| 1516. | 1355. | 1211. | 1083. | 969. | 868. | 778. | 698. | 626. | 563. |
| 504. | 451. | 405. | 363. | 327. | 294. | 255. | 217. | 179. | 113. |
| 88. | 71. | 68. | 66. | 64. | 63. | 61. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 20022. | 18660. | 11318. | 4374. | 319585. |
| INCHES | | 2.40 | 5.83 | 6.75 | 6.85 |
| AC-FT | | 9258. | 22461. | 26039. | 26426. |

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 5

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 80. | 93. | 120. | 161. |
| 237. | 391. | 610. | 932. | 1342. | 1822. | 2422. | 3265. | 4464. | 6357. |
| 9164. | 12647. | 16709. | 19978. | 22812. | 24528. | 25028. | 24292. | 22648. | 20646. |
| 18431. | 16759. | 15145. | 13473. | 12034. | 10725. | 9544. | 8492. | 7557. | 6726. |
| 5987. | 5330. | 4746. | 4227. | 3766. | 3356. | 2991. | 2667. | 2379. | 2123. |
| 1895. | 1693. | 1513. | 1354. | 1212. | 1085. | 972. | 872. | 783. | 704. |
| 630. | 564. | 506. | 454. | 408. | 367. | 318. | 271. | 224. | 141. |
| 110. | 88. | 85. | 83. | 80. | 78. | 77. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|-----|--------|--------|---------|---------|--------------|
| CFS | 25000. | 22225. | 18100. | 8817. | 200809. |

C-36

AC-FT 11572. 20077. 32549. 33032.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 6

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 96. | 112. | 144. | 193. |
| 284. | 457. | 732. | 1118. | 1611. | 2187. | 2906. | 3918. | 5356. | 7628. |
| 10997. | 15177. | 19691. | 23974. | 27374. | 29433. | 30034. | 29150. | 27178. | 24775. |
| 22357. | 20111. | 18054. | 16167. | 14441. | 12869. | 11453. | 10191. | 9048. | 8071. |
| 7104. | 6396. | 5695. | 5072. | 4519. | 4027. | 3589. | 3200. | 2855. | 2548. |
| 2275. | 2032. | 1816. | 1624. | 1454. | 1302. | 1167. | 1047. | 940. | 845. |
| 756. | 677. | 607. | 545. | 490. | 441. | 382. | 325. | 269. | 170. |
| 133. | 106. | 102. | 99. | 97. | 94. | 92. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME
 CFS 30034. 27991. 16978. 6561. 479380.
 INCHES 3.60 8.74 10.13 10.28
 AC-FT 13887. 33692. 39050. 39639.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 7

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 111. | 131. | 168. | 225. |
| 332. | 533. | 854. | 1305. | 1879. | 2551. | 3391. | 4571. | 6249. | 8899. |
| 12829. | 17706. | 22973. | 27969. | 31936. | 34339. | 35039. | 34009. | 31707. | 28904. |
| 26003. | 23462. | 21043. | 18862. | 16848. | 15014. | 13362. | 11889. | 10500. | 9416. |
| 8381. | 7462. | 6444. | 5918. | 5272. | 4698. | 4187. | 3734. | 3331. | 2972. |
| 2654. | 2370. | 2119. | 1895. | 1696. | 1519. | 1361. | 1221. | 1096. | 985. |
| 882. | 790. | 708. | 636. | 571. | 514. | 446. | 380. | 314. | 198. |
| 155. | 124. | 120. | 116. | 113. | 110. | 107. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME
 CFS 35039. 32656. 19807. 7654. 559278.
 INCHES 4.20 10.19 11.02 11.99
 AC-FT 16201. 39300. 45560. 46245.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 8

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 121. | 127. | 149. | 192. | 257. |
| 379. | 609. | 977. | 1491. | 2148. | 2916. | 3875. | 5224. | 7142. | 10170. |
| 14662. | 20236. | 26235. | 31965. | 36498. | 39245. | 40045. | 38867. | 36237. | 33033. |
| 29009. | 26014. | 24071. | 21556. | 19255. | 17159. | 15271. | 13587. | 12091. | 10761. |
| 9579. | 8528. | 7593. | 6763. | 6025. | 5369. | 4786. | 4267. | 3806. | 3397. |
| 3033. | 2709. | 2421. | 2166. | 1938. | 1736. | 1556. | 1395. | 1253. | 1126. |
| 1000. | 903. | 810. | 727. | 653. | 587. | 509. | 434. | 358. | 226. |
| 177. | 141. | 137. | 132. | 129. | 125. | 123. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |

PEAK 6-HOUR 24-HOUR 72-HOUR TOTAL VOLUME

AC-FT 18516. 44923. 52078. 52852.

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 9

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 151. | 159. | 187. | 240. | 321. |
| 474. | 762. | 1221. | 1864. | 2684. | 3645. | 4844. | 6530. | 8927. | 12713. |
| 18328. | 25294. | 32818. | 39956. | 45623. | 49056. | 50056. | 48584. | 45296. | 41291. |
| 37261. | 33518. | 30089. | 26945. | 24069. | 21449. | 19089. | 16984. | 15114. | 13451. |
| 11973. | 10660. | 9492. | 8454. | 7531. | 6711. | 5982. | 5334. | 4758. | 4246. |
| 3791. | 3386. | 3027. | 2707. | 2423. | 2170. | 1945. | 1744. | 1566. | 1408. |
| 1260. | 1129. | 1012. | 908. | 816. | 734. | 636. | 542. | 448. | 283. |
| 221. | 177. | 171. | 166. | 161. | 157. | 153. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|--------|--------|---------|---------|--------------|
| CFS | 50056. | 46651. | 28296. | 10934. | 798969. |
| INCHES | | 6.00 | 14.56 | 16.88 | 17.13 |
| AC-FT | | 23145. | 56154. | 65097. | 66065. |

HYDROGRAPH ROUTING

ISTAQ ICOMP IECON ITAPE JPLT JPRT INANE
1 1 0 0 0 0 0

ROUTING DATA

GLOSS CLOSS AVG IRES ISANE
0.0 0.0 0.0 1 1

NSTPS NSTDL LAG AMSKK X TSK STORA
1 0 0 0.0 0.0 0.0 -1.

| | | | | | | | | | | |
|----------|----|--------|--------|--------|---------|---------|---------|----|----|----|
| STORAGE# | 0. | 17328. | 34756. | 52184. | 104360. | 208736. | 243492. | 0. | 0. | 0. |
| OUTFLOW# | 0. | 353. | 747. | 1508. | 6403. | 13313. | 17359. | 0. | 0. | 0. |

STATION 1, PLAN 1, RTIO 1

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. | 15. |
| 15. | 15. | 15. | 16. | 16. | 16. | 17. | 18. | 19. | 21. |
| 24. | 27. | 32. | 38. | 45. | 53. | 61. | 70. | 77. | 85. |
| 91. | 97. | 102. | 107. | 111. | 114. | 118. | 120. | 123. | 125. |
| 127. | 129. | 130. | 132. | 133. | 134. | 134. | 135. | 136. | 136. |
| 137. | 137. | 137. | 138. | 138. | 138. | 138. | 138. | 138. | 138. |
| 138. | 138. | 138. | 138. | 138. | 138. | 138. | 138. | 138. | 137. |
| 137. | 137. | 137. | 137. | 136. | 136. | 136. | 136. | 136. | 135. |
| 135. | 135. | 135. | 135. | 134. | 134. | 134. | 134. | 134. | 133. |
| 133. | 133. | 133. | 133. | 132. | 132. | 132. | 132. | 132. | 131. |
| 131. | 131. | 131. | 131. | 130. | 130. | 130. | 130. | 130. | 129. |
| 129. | 129. | 129. | 129. | 129. | 128. | 128. | 128. | 128. | 128. |
| 127. | 127. | 127. | 127. | 127. | 126. | 126. | 126. | 126. | 126. |

STOR

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 736. | 736. | 736. | 736. | 736. | 736. | 736. | 736. | 736. | 736. |
| 736. | 736. | 736. | 736. | 736. | 736. | 736. | 736. | 736. | 736. |
| 736. | 736. | 736. | 736. | 736. | 736. | 736. | 737. | 737. | 738. |
| 740. | 744. | 751. | 762. | 780. | 805. | 838. | 884. | 946. | 1034. |
| 1161. | 1339. | 1576. | 1874. | 2224. | 2612. | 3016. | 3419. | 3800. | 4151. |

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 6715. | 6733. | 6749. | 6761. | 6771. | 6778. | 6784. | 6788. | 6790. | 6791. |
| 6790. | 6789. | 6786. | 6783. | 6778. | 6773. | 6768. | 6761. | 6754. | 6745. |
| 6736. | 6727. | 6717. | 6707. | 6697. | 6687. | 6677. | 6667. | 6657. | 6647. |
| 6637. | 6627. | 6617. | 6607. | 6597. | 6587. | 6578. | 6568. | 6558. | 6548. |
| 6538. | 6529. | 6519. | 6509. | 6499. | 6490. | 6480. | 6470. | 6461. | 6451. |
| 6441. | 6432. | 6422. | 6413. | 6403. | 6394. | 6384. | 6375. | 6365. | 6356. |
| 6346. | 6337. | 6327. | 6318. | 6308. | 6299. | 6290. | 6280. | 6271. | 6262. |
| 6252. | 6243. | 6234. | 6225. | 6215. | 6206. | 6197. | 6188. | 6179. | 6169. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 138. | 138. | 138. | 134. | 14205. |
| INCHES | | 0.02 | 0.07 | 0.21 | 0.30 |
| AC-FT | | 69. | 273. | 800. | 1175. |

| STATION | | | | | | | | | |
|-------------------|------|------|------|------|------|------|------|------|------|
| 1, PLAN 1, RTIO 2 | | | | | | | | | |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. | 30. |
| 30. | 30. | 31. | 31. | 32. | 33. | 34. | 36. | 39. | 42. |
| 47. | 55. | 64. | 76. | 91. | 106. | 123. | 139. | 155. | 169. |
| 182. | 194. | 204. | 213. | 222. | 229. | 235. | 241. | 246. | 250. |
| 254. | 258. | 260. | 263. | 265. | 267. | 269. | 270. | 272. | 273. |
| 274. | 274. | 275. | 275. | 276. | 276. | 276. | 277. | 277. | 277. |
| 277. | 277. | 276. | 276. | 276. | 276. | 276. | 275. | 275. | 275. |
| 274. | 274. | 274. | 273. | 273. | 272. | 272. | 272. | 271. | 271. |
| 270. | 270. | 270. | 269. | 269. | 268. | 268. | 268. | 267. | 267. |
| 266. | 266. | 266. | 265. | 265. | 264. | 264. | 264. | 263. | 263. |
| 262. | 262. | 262. | 261. | 261. | 261. | 260. | 260. | 259. | 259. |
| 259. | 258. | 258. | 257. | 257. | 257. | 256. | 256. | 256. | 255. |
| 255. | 254. | 254. | 254. | 253. | 253. | 252. | 252. | 252. | 251. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. |
| 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. |
| 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1473. | 1474. | 1476. |
| 1480. | 1488. | 1502. | 1525. | 1560. | 1610. | 1677. | 1768. | 1893. | 2068. |
| 2321. | 2677. | 3153. | 3748. | 4449. | 5223. | 6033. | 6837. | 7601. | 8303. |
| 8938. | 9507. | 10016. | 10470. | 10874. | 11232. | 11547. | 11826. | 12071. | 12287. |
| 12476. | 12642. | 12787. | 12914. | 13024. | 13120. | 13202. | 13273. | 13334. | 13386. |
| 13430. | 13467. | 13497. | 13522. | 13541. | 13557. | 13568. | 13575. | 13580. | 13582. |
| 13581. | 13578. | 13572. | 13566. | 13557. | 13547. | 13535. | 13522. | 13508. | 13491. |
| 13473. | 13453. | 13433. | 13414. | 13394. | 13374. | 13354. | 13334. | 13314. | 13294. |
| 13274. | 13254. | 13234. | 13215. | 13195. | 13175. | 13155. | 13136. | 13116. | 13097. |
| 13077. | 13058. | 13038. | 13019. | 12999. | 12980. | 12960. | 12941. | 12922. | 12902. |
| 12883. | 12864. | 12845. | 12826. | 12807. | 12788. | 12769. | 12750. | 12731. | 12712. |
| 12693. | 12674. | 12655. | 12636. | 12617. | 12599. | 12580. | 12561. | 12542. | 12524. |
| 12505. | 12487. | 12468. | 12450. | 12431. | 12413. | 12394. | 12376. | 12358. | 12339. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 277. | 277. | 275. | 269. | 28411. |
| INCHES | | 0.04 | 0.14 | 0.42 | 0.61 |
| AC-FT | | 137. | 547. | 1600. | 2349. |

| STATION | | | | | | | | | |
|-------------------|------|------|------|------|------|------|------|------|------|
| 1, PLAN 1, RTIO 3 | | | | | | | | | |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. | 45. |
| 45. | 45. | 46. | 47. | 48. | 49. | 51. | 54. | 58. | 63. |
| 71. | 82. | 96. | 115. | 136. | 160. | 184. | 209. | 232. | 254. |
| 273. | 291. | 306. | 320. | 332. | 343. | 353. | 362. | 371. | 378. |
| 384. | 390. | 395. | 399. | 403. | 406. | 409. | 411. | 413. | 415. |
| 417. | 418. | 419. | 420. | 420. | 421. | 421. | 421. | 422. | 422. |
| 422. | 421. | 421. | 421. | 421. | 420. | 420. | 420. | 419. | 418. |
| 418. | 417. | 416. | 416. | 415. | 414. | 414. | 413. | 412. | 412. |

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 398. | 397. | 396. | 396. | 395. | 394. | 394. | 393. | 392. | 392. |
| 391. | 390. | 390. | 389. | 388. | 388. | 387. | 386. | 386. | 385. |
| 385. | 384. | 383. | 383. | 382. | 381. | 381. | 380. | 380. | 379. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. |
| 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. |
| 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2209. | 2210. | 2211. | 2214. |
| 2221. | 2232. | 2253. | 2287. | 2340. | 2414. | 2515. | 2652. | 2839. | 3102. |
| 3402. | 4016. | 4729. | 5622. | 6673. | 7835. | 9049. | 10256. | 11401. | 12454. |
| 13406. | 14261. | 15024. | 15706. | 16311. | 16847. | 17321. | 17739. | 18106. | 18430. |
| 18713. | 18962. | 19179. | 19369. | 19534. | 19677. | 19801. | 19907. | 19998. | 20075. |
| 20141. | 20195. | 20240. | 20277. | 20305. | 20328. | 20344. | 20355. | 20361. | 20363. |
| 20361. | 20356. | 20348. | 20337. | 20323. | 20308. | 20290. | 20270. | 20248. | 20222. |
| 20194. | 20164. | 20134. | 20104. | 20073. | 20043. | 20013. | 19982. | 19952. | 19922. |
| 19891. | 19861. | 19831. | 19801. | 19771. | 19741. | 19711. | 19681. | 19651. | 19621. |
| 19592. | 19562. | 19532. | 19503. | 19473. | 19444. | 19414. | 19385. | 19356. | 19327. |
| 19297. | 19268. | 19239. | 19210. | 19181. | 19152. | 19124. | 19095. | 19066. | 19037. |
| 19009. | 18980. | 18952. | 18923. | 18895. | 18866. | 18838. | 18810. | 18782. | 18753. |
| 18725. | 18697. | 18669. | 18641. | 18613. | 18586. | 18558. | 18530. | 18502. | 18475. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 422. | 421. | 420. | 408. | 43035. |
| INCHES | | 0.05 | 0.22 | 0.63 | 0.92 |
| AC-FT | | 209. | 833. | 2431. | 3558. |

STATION 1, PLAN 1, RTIO 4

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. | 60. |
| 60. | 61. | 61. | 62. | 64. | 66. | 68. | 72. | 77. | 84. |
| 95. | 109. | 128. | 153. | 181. | 213. | 246. | 279. | 310. | 338. |
| 365. | 391. | 414. | 435. | 453. | 469. | 483. | 496. | 507. | 517. |
| 525. | 533. | 539. | 545. | 550. | 554. | 558. | 561. | 564. | 566. |
| 568. | 570. | 571. | 572. | 573. | 573. | 574. | 574. | 574. | 574. |
| 574. | 574. | 574. | 574. | 573. | 573. | 572. | 571. | 571. | 570. |
| 569. | 568. | 567. | 566. | 565. | 564. | 563. | 563. | 562. | 561. |
| 560. | 559. | 558. | 557. | 556. | 555. | 554. | 553. | 552. | 551. |
| 550. | 550. | 549. | 548. | 547. | 546. | 545. | 544. | 543. | 542. |
| 541. | 541. | 540. | 539. | 538. | 537. | 536. | 535. | 534. | 533. |
| 533. | 532. | 531. | 530. | 529. | 528. | 527. | 526. | 525. | 525. |
| 524. | 523. | 522. | 521. | 520. | 519. | 519. | 518. | 517. | 516. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. |
| 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. |
| 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2945. | 2946. | 2948. | 2953. |
| 2961. | 2976. | 3004. | 3050. | 3120. | 3219. | 3354. | 3536. | 3785. | 4136. |
| 4642. | 5355. | 6305. | 7497. | 8897. | 10446. | 12065. | 13674. | 15201. | 16606. |
| 17875. | 19014. | 20032. | 20940. | 21746. | 22460. | 23091. | 23647. | 24136. | 24566. |
| 24943. | 25273. | 25562. | 25814. | 26033. | 26223. | 26387. | 26527. | 26648. | 26750. |
| 26836. | 26907. | 26966. | 27014. | 27051. | 27080. | 27100. | 27114. | 27121. | 27123. |
| 27120. | 27112. | 27099. | 27084. | 27065. | 27043. | 27019. | 26991. | 26960. | 26925. |
| 26886. | 26846. | 26805. | 26763. | 26722. | 26680. | 26639. | 26597. | 26556. | 26515. |
| 26473. | 26432. | 26391. | 26350. | 26309. | 26268. | 26227. | 26186. | 26145. | 26105. |
| 26064. | 26023. | 25983. | 25943. | 25902. | 25862. | 25822. | 25782. | 25742. | 25702. |
| 25662. | 25622. | 25583. | 25543. | 25504. | 25464. | 25425. | 25386. | 25346. | 25307. |
| 25268. | 25229. | 25190. | 25151. | 25112. | 25074. | 25035. | 24996. | 24958. | 24919. |
| 24881. | 24843. | 24805. | 24766. | 24728. | 24690. | 24652. | 24614. | 24577. | 24539. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 574. | 574. | 572. | 556. | 58527. |
| INCHES | | 0.07 | 0.29 | 0.86 | 1.26 |
| AC-FT | | 285. | 1134. | 3312. | 4839. |

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. | 75. |
| 75. | 76. | 76. | 78. | 79. | 82. | 85. | 90. | 96. | 105. |
| 118. | 136. | 161. | 191. | 227. | 266. | 307. | 348. | 391. | 431. |
| 466. | 499. | 527. | 553. | 576. | 596. | 614. | 629. | 643. | 655. |
| 666. | 675. | 683. | 690. | 697. | 702. | 707. | 711. | 714. | 717. |
| 719. | 721. | 723. | 724. | 725. | 726. | 727. | 727. | 727. | 727. |
| 727. | 727. | 726. | 726. | 725. | 725. | 724. | 723. | 722. | 721. |
| 720. | 719. | 718. | 717. | 716. | 714. | 713. | 712. | 711. | 710. |
| 700. | 707. | 706. | 705. | 704. | 703. | 701. | 700. | 699. | 698. |
| 697. | 696. | 694. | 693. | 692. | 691. | 690. | 689. | 688. | 686. |
| 685. | 684. | 683. | 682. | 681. | 680. | 678. | 677. | 676. | 675. |
| 674. | 673. | 672. | 671. | 669. | 668. | 667. | 666. | 665. | 664. |
| 663. | 662. | 661. | 660. | 658. | 657. | 656. | 655. | 654. | 653. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. |
| 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. |
| 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3682. | 3683. | 3685. | 3691. |
| 3701. | 3720. | 3755. | 3812. | 3900. | 4024. | 4192. | 4420. | 4732. | 5170. |
| 5003. | 6693. | 7882. | 9371. | 11122. | 13058. | 15082. | 17093. | 19002. | 20757. |
| 22343. | 23765. | 25037. | 26171. | 27170. | 28070. | 28858. | 29552. | 30162. | 30699. |
| 31169. | 31582. | 31942. | 32256. | 32529. | 32765. | 32969. | 33144. | 33294. | 33421. |
| 33528. | 33617. | 33689. | 33748. | 33794. | 33829. | 33854. | 33870. | 33878. | 33880. |
| 33875. | 33864. | 33840. | 33828. | 33804. | 33776. | 33744. | 33709. | 33669. | 33625. |
| 33576. | 33524. | 33472. | 33420. | 33367. | 33315. | 33262. | 33210. | 33157. | 33104. |
| 33052. | 33000. | 32948. | 32895. | 32843. | 32791. | 32740. | 32688. | 32636. | 32585. |
| 32533. | 32482. | 32431. | 32380. | 32329. | 32278. | 32227. | 32176. | 32125. | 32075. |
| 32024. | 31974. | 31923. | 31873. | 31823. | 31773. | 31723. | 31673. | 31624. | 31574. |
| 31524. | 31475. | 31426. | 31376. | 31327. | 31278. | 31229. | 31180. | 31131. | 31083. |
| 31034. | 30985. | 30937. | 30889. | 30840. | 30792. | 30744. | 30696. | 30648. | 30600. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|------|--------|---------|---------|--------------|
| CFS | 727. | 727. | 724. | 704. | 74051. |
| INCHES | | 0.09 | 0.37 | 1.09 | 1.59 |
| AC-FT | | 361. | 1436. | 4193. | 6123. |

STATION 1, PLAN 1, RTIO 6

| | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. | 90. |
| 90. | 91. | 92. | 93. | 95. | 98. | 102. | 108. | 116. | 126. |
| 142. | 164. | 193. | 229. | 272. | 319. | 370. | 425. | 477. | 524. |
| 567. | 606. | 640. | 671. | 698. | 723. | 744. | 778. | 809. | 837. |
| 862. | 883. | 902. | 918. | 932. | 944. | 954. | 963. | 970. | 977. |
| 982. | 986. | 989. | 992. | 994. | 995. | 996. | 997. | 997. | 996. |
| 996. | 995. | 993. | 992. | 990. | 988. | 986. | 984. | 981. | 979. |
| 976. | 973. | 969. | 966. | 963. | 960. | 957. | 954. | 951. | 948. |
| 945. | 941. | 938. | 935. | 932. | 929. | 926. | 923. | 920. | 917. |
| 914. | 911. | 908. | 905. | 902. | 899. | 897. | 894. | 891. | 888. |
| 885. | 882. | 879. | 876. | 874. | 871. | 868. | 865. | 862. | 860. |
| 857. | 854. | 851. | 849. | 846. | 843. | 840. | 838. | 835. | 832. |
| 830. | 827. | 824. | 822. | 819. | 816. | 814. | 811. | 809. | 806. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. |
| 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. |
| 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4418. | 4419. | 4422. | 4429. |
| 4441. | 4464. | 4506. | 4575. | 4680. | 4829. | 5031. | 5304. | 5678. | 6205. |
| 6963. | 8032. | 9450. | 11245. | 13346. | 15669. | 18098. | 20511. | 22801. | 24906. |
| 26009. | 28515. | 30041. | 31401. | 32609. | 33679. | 34623. | 35455. | 36185. | 36825. |
| 37385. | 37874. | 38300. | 38670. | 38990. | 39265. | 39501. | 39703. | 39873. | 40016. |
| 40134. | 40231. | 40300. | 40369. | 40414. | 40445. | 40465. | 40474. | 40474. | 40465. |
| 40440. | 40474. | 40497. | 40499. | 40499. | 40499. | 40499. | 40499. | 40499. | 40499. |

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 39279. | 39209. | 39139. | 39069. | 38999. | 38929. | 38860. | 38791. | 38722. | 38654. |
| 38586. | 38518. | 38450. | 38382. | 38315. | 38248. | 38181. | 38115. | 38048. | 37982. |
| 37916. | 37851. | 37786. | 37720. | 37656. | 37591. | 37526. | 37462. | 37398. | 37335. |
| 37271. | 37208. | 37145. | 37082. | 37019. | 36957. | 36895. | 36833. | 36771. | 36710. |
| 36649. | 36588. | 36527. | 36466. | 36406. | 36346. | 36286. | 36226. | 36166. | 36107. |

| | | | | | |
|--------|------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 997. | 996. | 988. | 937. | 96293. |
| INCHES | | 0.13 | 0.51 | 1.45 | 2.06 |
| AC-FT | | 494. | 1960. | 5580. | 7962. |

| STATION | | | | | | | | | |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1, PLAN 1, RTIO 7 | | | | | | | | | |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. | 105. |
| 106. | 106. | 107. | 109. | 111. | 115. | 120. | 126. | 135. | 147. |
| 165. | 191. | 225. | 267. | 317. | 375. | 439. | 502. | 563. | 618. |
| 668. | 713. | 760. | 829. | 890. | 944. | 992. | 1034. | 1071. | 1103. |
| 1131. | 1155. | 1177. | 1195. | 1211. | 1224. | 1236. | 1246. | 1254. | 1261. |
| 1266. | 1271. | 1274. | 1277. | 1279. | 1280. | 1281. | 1281. | 1280. | 1279. |
| 1278. | 1277. | 1275. | 1273. | 1270. | 1267. | 1265. | 1262. | 1258. | 1255. |
| 1251. | 1247. | 1243. | 1239. | 1235. | 1231. | 1227. | 1223. | 1218. | 1214. |
| 1210. | 1206. | 1203. | 1199. | 1195. | 1191. | 1187. | 1183. | 1179. | 1175. |
| 1171. | 1167. | 1164. | 1160. | 1156. | 1152. | 1148. | 1145. | 1141. | 1137. |
| 1133. | 1130. | 1126. | 1122. | 1119. | 1115. | 1111. | 1108. | 1104. | 1101. |
| 1097. | 1093. | 1090. | 1086. | 1083. | 1079. | 1076. | 1072. | 1069. | 1065. |
| 1062. | 1058. | 1055. | 1052. | 1048. | 1045. | 1041. | 1038. | 1035. | 1031. |

STOR

| | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. |
| 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5154. |
| 5154. | 5154. | 5154. | 5154. | 5154. | 5154. | 5155. | 5156. | 5159. | 5167. |
| 5181. | 5208. | 5257. | 5337. | 5460. | 5633. | 5869. | 6188. | 6624. | 7239. |
| 8124. | 9371. | 11034. | 13119. | 15570. | 18280. | 21114. | 23928. | 26600. | 29055. |
| 31274. | 33265. | 35044. | 36628. | 38032. | 39273. | 40366. | 41325. | 42167. | 42903. |
| 43546. | 44107. | 44593. | 45014. | 45377. | 45689. | 45954. | 46179. | 46367. | 46524. |
| 46652. | 46755. | 46835. | 46895. | 46938. | 46965. | 46979. | 46979. | 46969. | 46950. |
| 46921. | 46885. | 46841. | 46791. | 46736. | 46676. | 46611. | 46541. | 46465. | 46383. |
| 46294. | 46202. | 46109. | 46016. | 45924. | 45831. | 45738. | 45646. | 45554. | 45462. |
| 45370. | 45279. | 45188. | 45098. | 45007. | 44918. | 44828. | 44739. | 44650. | 44561. |
| 44473. | 44385. | 44297. | 44210. | 44123. | 44036. | 43950. | 43864. | 43778. | 43692. |
| 43607. | 43522. | 43438. | 43354. | 43270. | 43186. | 43103. | 43020. | 42937. | 42855. |
| 42772. | 42691. | 42609. | 42528. | 42447. | 42366. | 42286. | 42206. | 42126. | 42046. |
| 41967. | 41888. | 41809. | 41731. | 41653. | 41575. | 41498. | 41420. | 41343. | 41267. |

| | | | | | |
|--------|-------|--------|---------|---------|--------------|
| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
| CFS | 1281. | 1280. | 1269. | 1204. | 122774. |
| INCHES | | 0.16 | 0.65 | 1.86 | 2.63 |
| AC-FT | | 635. | 2519. | 7169. | 10152. |

| STATION | | | | | | | | | |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1, PLAN 1, RTIO 8 | | | | | | | | | |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. |
| 121. | 121. | 122. | 124. | 127. | 131. | 137. | 144. | 154. | 169. |
| 189. | 218. | 257. | 305. | 364. | 434. | 507. | 579. | 648. | 712. |
| 790. | 889. | 977. | 1056. | 1126. | 1187. | 1242. | 1289. | 1331. | 1367. |
| 1399. | 1426. | 1450. | 1471. | 1489. | 1504. | 1526. | 1550. | 1569. | 1584. |
| 1597. | 1607. | 1614. | 1620. | 1623. | 1625. | 1625. | 1624. | 1621. | 1618. |
| 1614. | 1609. | 1603. | 1596. | 1589. | 1582. | 1574. | 1565. | 1556. | 1547. |
| 1536. | 1525. | 1515. | 1506. | 1501. | 1496. | 1491. | 1486. | 1481. | 1477. |
| 1472. | 1467. | 1462. | 1457. | 1452. | 1448. | 1443. | 1438. | 1433. | 1428. |
| 1424. | 1419. | 1414. | 1410. | 1405. | 1400. | 1396. | 1391. | 1387. | 1382. |
| 1378. | 1373. | 1369. | 1364. | 1360. | 1355. | 1351. | 1346. | 1342. | 1337. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5891. | 5891. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. |
| 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5890. |
| 5890. | 5890. | 5890. | 5890. | 5890. | 5890. | 5891. | 5892. | 5896. | 5905. |
| 5921. | 5952. | 6008. | 6099. | 6239. | 6438. | 6707. | 7072. | 7571. | 8273. |
| 9284. | 10709. | 12611. | 14993. | 17795. | 20891. | 24129. | 27345. | 30398. | 33204. |
| 35739. | 38009. | 40035. | 41836. | 43432. | 44841. | 46081. | 47169. | 48122. | 48955. |
| 49681. | 50312. | 50860. | 51332. | 51738. | 52085. | 52380. | 52627. | 52831. | 52999. |
| 53133. | 53238. | 53317. | 53373. | 53408. | 53426. | 53428. | 53415. | 53391. | 53355. |
| 53310. | 53256. | 53194. | 53125. | 53050. | 52971. | 52886. | 52795. | 52699. | 52595. |
| 52484. | 52370. | 52256. | 52143. | 52029. | 51916. | 51803. | 51689. | 51577. | 51464. |
| 51352. | 51241. | 51130. | 51019. | 50909. | 50799. | 50689. | 50580. | 50472. | 50363. |
| 50255. | 50148. | 50040. | 49934. | 49827. | 49721. | 49616. | 49510. | 49405. | 49301. |
| 49197. | 49093. | 48990. | 48887. | 48784. | 48682. | 48580. | 48478. | 48377. | 48276. |
| 48176. | 48076. | 47976. | 47877. | 47778. | 47679. | 47581. | 47483. | 47385. | 47288. |
| 47191. | 47095. | 46999. | 46903. | 46807. | 46712. | 46617. | 46523. | 46429. | 46335. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 1625. | 1623. | 1594. | 1483. | 150355. |
| INCHES | | 0.21 | 0.82 | 2.29 | 3.22 |
| AC-FT | | 805. | 3162. | 8830. | 12432. |

| STATION 1, PLAN 1, RTIO 9 | | | | | | | | | |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. | 150. |
| 151. | 152. | 153. | 155. | 159. | 164. | 171. | 180. | 193. | 211. |
| 236. | 273. | 321. | 385. | 464. | 552. | 643. | 734. | 888. | 1041. |
| 1179. | 1302. | 1412. | 1511. | 1696. | 1859. | 2001. | 2125. | 2233. | 2326. |
| 2406. | 2475. | 2533. | 2583. | 2625. | 2660. | 2688. | 2711. | 2729. | 2743. |
| 2753. | 2759. | 2762. | 2763. | 2762. | 2758. | 2753. | 2746. | 2737. | 2728. |
| 2717. | 2705. | 2693. | 2679. | 2665. | 2651. | 2635. | 2620. | 2603. | 2586. |
| 2568. | 2550. | 2531. | 2513. | 2495. | 2477. | 2459. | 2441. | 2423. | 2406. |
| 2388. | 2371. | 2354. | 2337. | 2320. | 2303. | 2287. | 2270. | 2254. | 2237. |
| 2221. | 2205. | 2189. | 2174. | 2158. | 2143. | 2127. | 2112. | 2097. | 2082. |
| 2067. | 2052. | 2037. | 2023. | 2008. | 1994. | 1980. | 1966. | 1952. | 1938. |
| 1924. | 1910. | 1897. | 1883. | 1870. | 1856. | 1843. | 1830. | 1817. | 1804. |
| 1792. | 1779. | 1766. | 1754. | 1741. | 1729. | 1717. | 1705. | 1693. | 1681. |

| STOR | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. |
| 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. |
| 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7363. | 7365. | 7371. | 7381. |
| 7402. | 7440. | 7510. | 7624. | 7799. | 8047. | 8384. | 8840. | 9463. | 10341. |
| 11605. | 13386. | 15763. | 18741. | 22243. | 26113. | 30159. | 34178. | 37990. | 41489. |
| 44643. | 47465. | 49981. | 52217. | 54193. | 55927. | 57442. | 58763. | 59909. | 60901. |
| 61756. | 62489. | 63115. | 63645. | 64091. | 64461. | 64764. | 65009. | 65201. | 65347. |
| 65452. | 65521. | 65558. | 65566. | 65550. | 65512. | 65454. | 65379. | 65289. | 65186. |
| 65072. | 64946. | 64812. | 64669. | 64520. | 64364. | 64202. | 64034. | 63859. | 63675. |
| 63483. | 63287. | 63092. | 62897. | 62704. | 62512. | 62320. | 62130. | 61942. | 61755. |
| 61569. | 61385. | 61202. | 61020. | 60840. | 60662. | 60484. | 60309. | 60134. | 59961. |
| 59789. | 59618. | 59449. | 59281. | 59115. | 58949. | 58785. | 58623. | 58461. | 58301. |
| 58142. | 57984. | 57827. | 57672. | 57518. | 57365. | 57213. | 57062. | 56913. | 56764. |
| 56617. | 56471. | 56326. | 56183. | 56040. | 55898. | 55758. | 55618. | 55480. | 55343. |
| 55207. | 55071. | 54937. | 54804. | 54672. | 54541. | 54411. | 54282. | 54154. | 54027. |

| | PEAK | 6-HOUR | 24-HOUR | 72-HOUR | TOTAL VOLUME |
|--------|-------|--------|---------|---------|--------------|
| CFS | 2763. | 2760. | 2710. | 2424. | 235092. |
| INCHES | | 0.36 | 1.39 | 3.74 | 5.04 |
| AC-FT | | 1369. | 5378. | 14431. | 19439. |

PEAK FLOW SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

| PERATION | STATION | PLAN | RATIOS APPLIED TO FLOWS | | | | | | | | |
|---------------|---------|------|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | 0.10 | 0.20 | 0.30 | 0.40 | 0.50 | 0.60 | 0.70 | 0.80 | 1.00 |
| HYDROGRAPH AT | 1 | 1 | 5006. | 10011. | 15017. | 20022. | 25028. | 30034. | 35039. | 40045. | 50056. |
| | | 2 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |
| ROUTED TO | 1 | 1 | 138. | 277. | 422. | 574. | 727. | 997. | 1281. | 1625. | 2763. |
| | | 2 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. |

APPENDIX D
STABILITY ANALYSIS

APPENDIX D
STABILITY ANALYSIS

APPENDIX E
REFERENCES

APPENDIX

REFERENCES

1. Department of the Army, Office of the Chief of Engineers. National Program of Investigation of Dams; Appendix D: Recommended Guidelines for Safety Inspection of Dams, 1976
2. The University of the State of New York - The State Education Department - State Museum and Science Service - Geological Survey: Geological Map of New York (1970)
3. U.S. Nuclear Regulatory Commission: Design Basis Floods for Nuclear Power Plants, Regulating Guide 1.59, Revision 2, August 1977
4. Linsley and Franzini: Water Resources Engineering, Second Edition, McGraw-Hill (1972)
5. Louis C. Schreiner and John T. Riedel: Hydrometeorological Report No. 51, U.S. Department of Commerce, National Oceanic and Atmospheric Administration National Weather Service, Office of Hydrology; Silver Springs, Maryland, September 1976
6. Ven Te Chow: Handbook of Applied Hydrology, McGraw-Hill, 1964
7. The Hydrologic Engineering Center: Computer Program 723-X6-L2010, HEC-1 Flood Hydrograph Package, User's Manual, Corps of Engineers, U.S. Army, 609 Second Street, Davis, California 95616, January 1973
8. North Atlantic Regional Water Resources Study Coordinating Committee: Appendix C, Climate, Meteorology and Hydrology, February 1972
9. H. W. King, E. F. Brater: Handbook of Hydraulics, McGraw-Hill, 5th Edition, 1963
10. Ven Te Chow: Open Channel Hydraulics, McGraw-Hill, 1959
11. U.S. Nuclear Regulatory Commission: Design Basic Floods for Nuclear Power Plants, Regulating Guide 1.59, Revision 2, August 1977
12. Bureau of Reclamation, United States Department of the Interior, Design of Small Dams: A Water Resources Technical Publication, Third Printing, 1965
13. "Permeability Pore Pressure, and Uplift in Gravity Dams", by Roy W. Carlson, Transactions ASCE, Volume 122, 1957
14. J. T. Riedel, J. F. Appleby and R. W. Schloemer: Hydrometeorological Report No. 33, U.S. Department of Commerce, U.S. Department of Army Corps of Engineers, Washington, D.C., April 1956. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

15. Isachsen, Y. W., and McKendree, W. G., 1977, Preliminary Brittle Structures Map of New York, Hudson-Mohawk Sheet: New York State Museum Map and Chart Series No. 31B
16. Soil Map, Onondaga County New York, 1934, Cornell University Agricultural Experiment Station.
17. Smith, Burnett, 1935, Geology and Mineral Resources of the Skaneateles Quadrangle: New York State Mus. Bull. 300, 120p.